

# THE TECHNOLOGY REVIEW



MARCH

1930



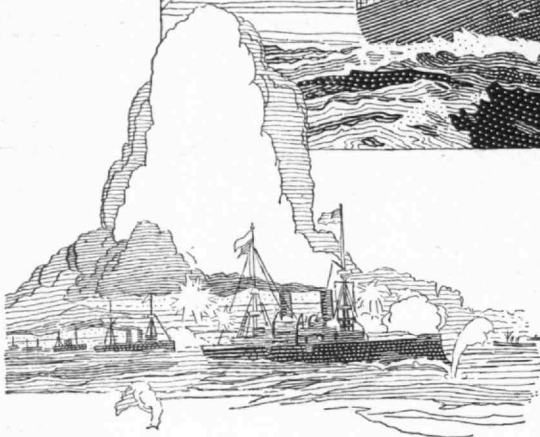
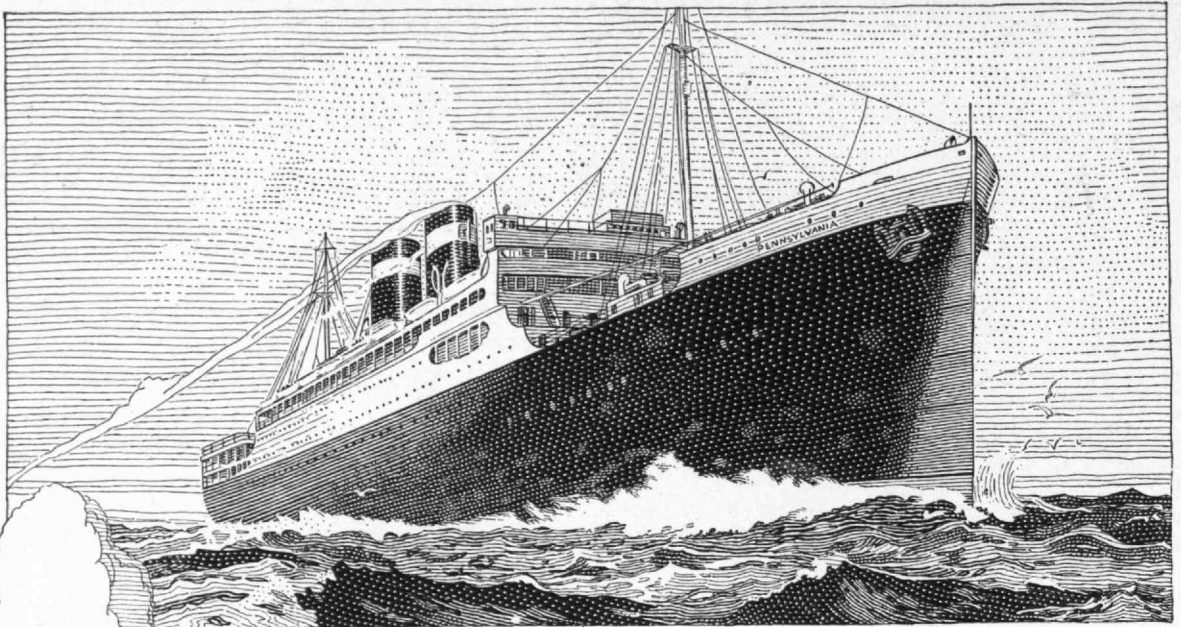
# technology review

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# The TECHNOLOGY REVIEW

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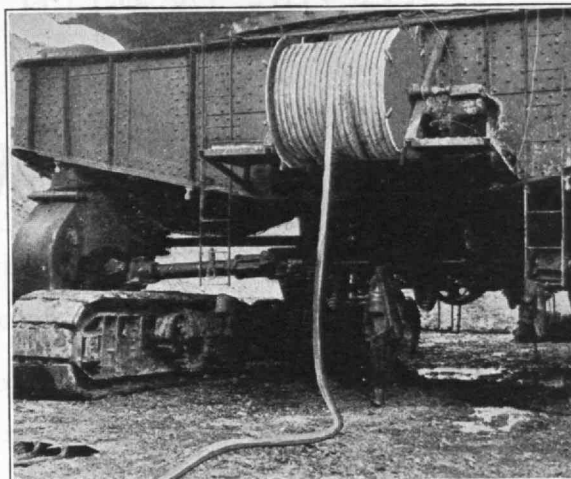
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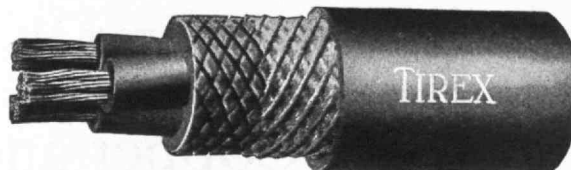
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## THE TABULAR VIEW

AMERICA'S non-fecundity in pure science is a myth that The Review delights in dispelling. It implodes immediately when subjected to the array of facts presented by JOSEPH MAYER in his article "Can Americans Be Scientists?" A survey of Dr. Mayer's versatile accomplishments recalls the lament of Palmerston that he wished he could be as sure of one thing as Macaulay was of everything. Dr. Mayer is now Head of the Department of Economics and Sociology at Tufts College and has taught and lectured on a bewildering variety of subjects: social ethics, mathematics, physics, mechanics, economics, world peace. He has a number of books to his credit, including "The Seven Seals of Science." Adjoining any facetious interpretation, in admiration of him one might cause him to repeat:

"My name is Benjamin Jowett,  
I'm master of Balliol College  
Whatever is known, I know it  
And what I don't know isn't knowledge."

DR. JAMES A. TOBEY, '15, sanitarian, was introduced to Review readers in November with his article, "Forestalling Death." He contributes again this month, "Business Discovers Health," another article on health promotion. At the present time he is Director of the Department of Health Service of The Borden Company. He contributes to many magazines, and one book of his, "The Most Nearly Perfect Food," is reviewed on page 251. He reports another book ready for the press. His activities are not confined to the science of public health work for he is also a member of the Bar. ¶ ERWIN H. SCHELL is Professor of Business Management at the Institute. He has kept in constant contact with all graduates in the Course of Engineering Administration through his "Five Hundreds Club." Consequently, he has collected a great body of data of the activities of technical graduates. He is the author of "A Million Dollar Lecture" and of "The Technique of Executive Control." By way of footnote it might be added that he is also a pianist of parts.

WILLIAM EMERSON, who reviews CHARLES S. WHITNEY's book on bridges, is Head of the Institute's Department of Architecture. After studying at Columbia and the École des Beaux Arts, he practised architecture until he was called to the Institute to succeed RALPH ADAMS CRAM. He is a Chevalier of the Legion of Honor and author of "Old Bridges of France." ¶ The reviewer of Dr. Tobey's book on milk is SAMUEL C. PRESCOTT, '94, Head of the Institute's Department of Biology and Public Health. He has had wide experience both in teaching and as a consultant in industrial microbiology. ¶ JOHN J. ROWLANDS is one of the Review's Contributing Editors and was the author of "Science and the Front Page" which appeared in December. ¶ GEORGE W. ADAMS is an instructor in the Institute's Department of English and History.

(Concluded on page 230)

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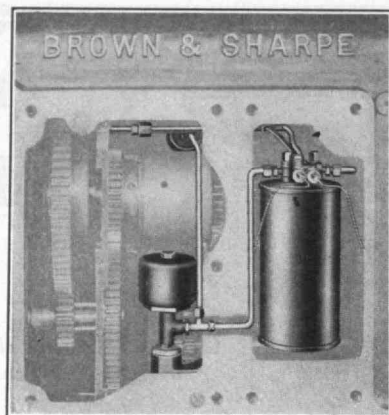
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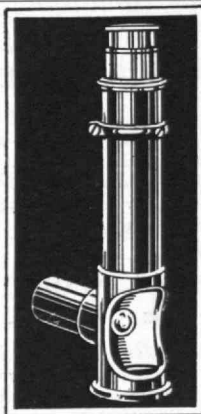
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## THE TABULAR VIEW

(Continued from page 229)

REGIONAL and town planning and the art of making our cities more livable have received much emphasis in recent numbers of *The Review* and it has much more material yet to present on the subject. Several letters have been received in comment. ROBERT ANDERSON POPE, '02, writes of Thomas E. Tallmadge's article in the December issue: "It was thrilling, orderly, historic, responsible, and far sighted." Mr. Pope referred us to interesting material which he has published on town planning. CHARLES L. KASSON, '06, has forwarded us some of his own suggestions for the development of our cities. Says he, "The engineering fundamentals of the great city of the future are so simple, why not begin to plan now:

1. Inner electric zone.

(a) The minimum of exhaust gas with its dangerous carbon monoxide content.

2. Coördinated transportation facilities.

3. Underground high speed radial and belt electric railways.

4. Underground pipe and wire tunnels. . . .

5. Surface gas and electric busses.

6. Elevated pedestrian deck. . . .

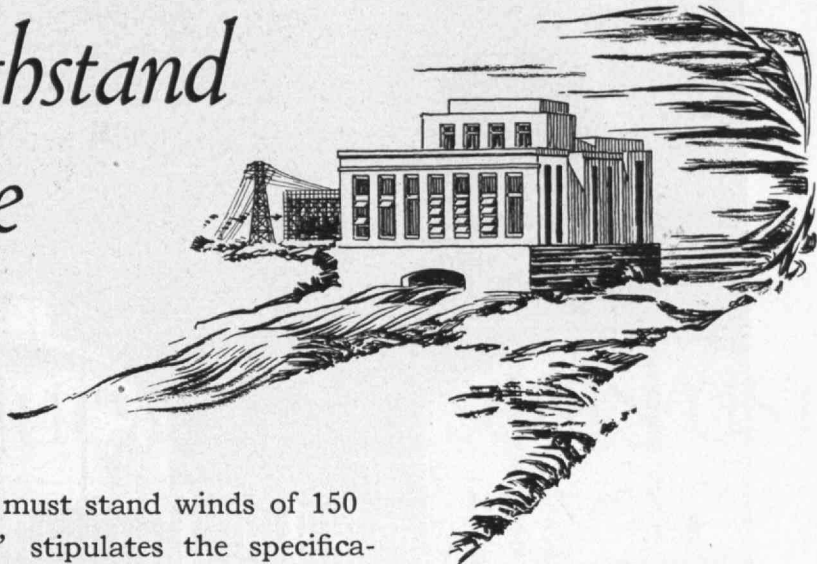
7. Three entrances to stores from subways, surface streets and elevated ped-decks."

THE REVIEW'S continued enlargement and — shall we say it? — editorial enrichment are meeting with unprecedented success. The print order for each successive issue grows larger and larger. STUART CHASE'S ('10) article in the November issue was selected as one of the ten leading articles published in America during that month and in another selection was chosen as one of the thirty best articles. In addition it has been translated into German. DR. TOBEX'S "Forestalling Death" (*vide supra*) was reprinted in two other magazines, as was DR. ARTHUR D. LITTLE'S ('85) "Research and Labor." JOHN J. ROWLAND'S "Science and the Front Page," published in December, has been widely quoted and DR. NORBERT WIENER'S "Mathematics and Art," published in January, has been reprinted. These recognitions are plainly reflected in a growing circulation: The Review's customers seem to want and enjoy it and their interest is more than a passing fancy, for they show a charming disposition to continue as permanent subscribers. Future issues are to be in size larger and in content equally important and interesting. Articles are already planned discussing the sick textile industry, the more advanced ideas of the French city planners, the collecting of prints, the study and control of lightning, the scientific method applied to the study of history and the life of Count Rumford.

ON THE COVER of this issue is reproduced "The Propylæa" by PROFESSOR HAROLD B. WARREN of the Harvard School of Architecture.



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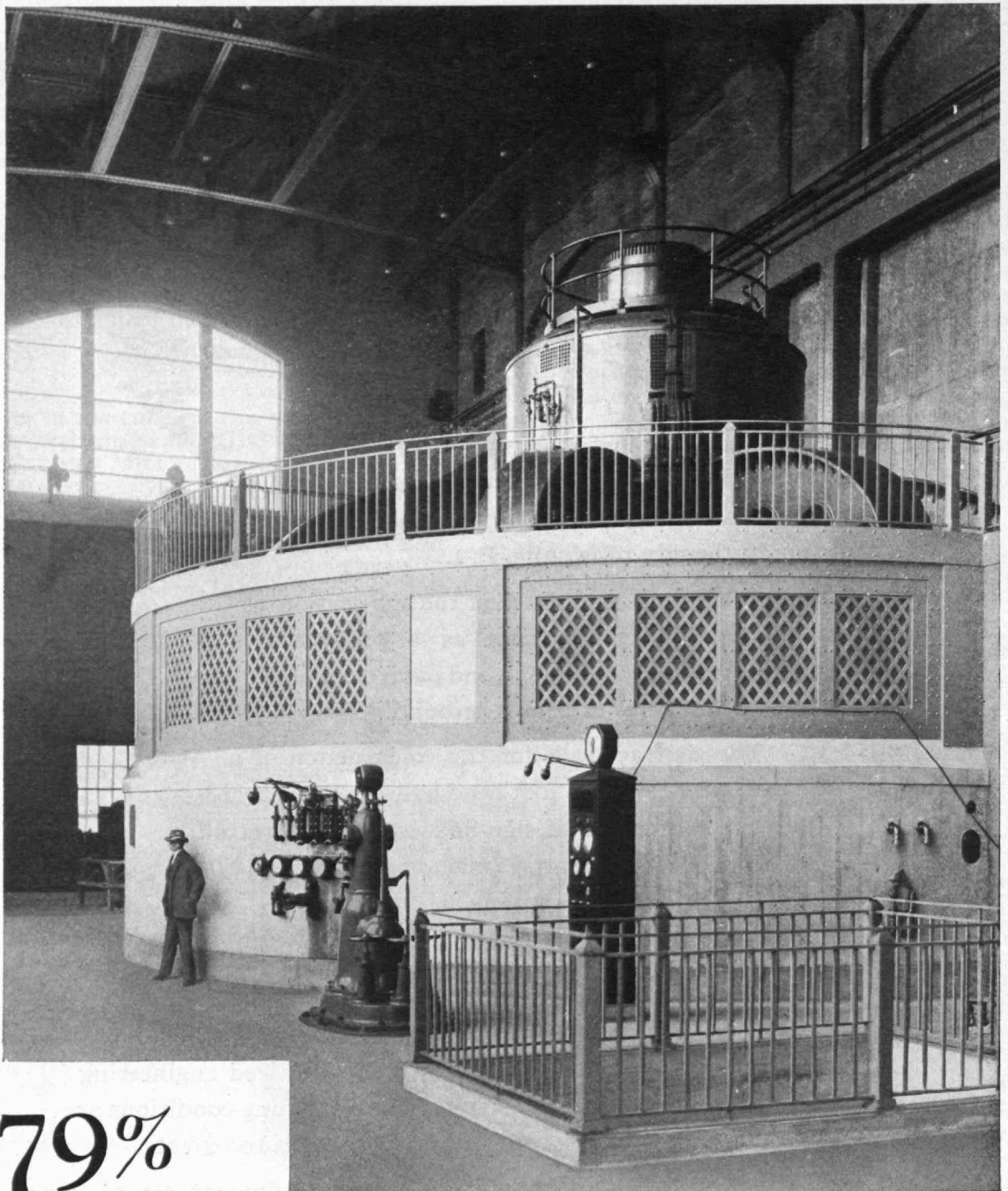


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# The TECHNOLOGY REVIEW

VOLUME 32

MARCH, 1930

NUMBER 5

## CAN AMERICANS BE SCIENTISTS?

### *Our Contributions to Physical Science*

BY JOSEPH MAYER

WE are a great business people, but superficial, materialistic and quite untouched by considerations of scholarly tradition — such is the usual estimate of the United States vouchsafed by Europeans and generally accepted by Americans, sometimes with pride. To most of the outside world, and to some of us, the United States is the nation of the almighty dollar and little else.

When Edison, Bell, and the Wright brothers are named and a share in the development of science is claimed through them, the critics hasten to concur only to adduce this as proof strengthening their assertion, since these men have applied the results of scientific achievement to the practical arts only, and have seemingly left us as far as before from the plane of Galileo and Newton.

And yet this estimate is entirely false, as the following pages will indicate, for instead of being but negligible

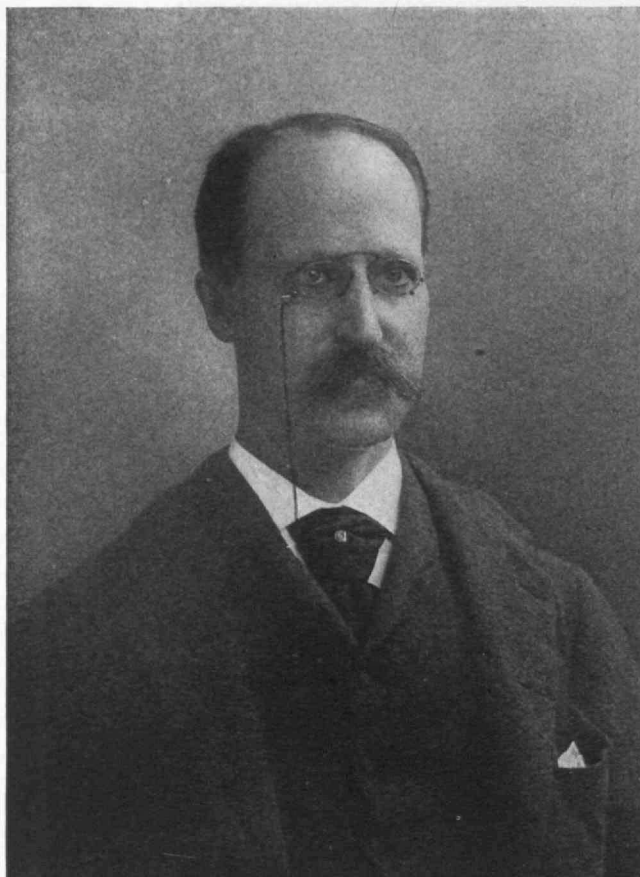
laggards after science, America today definitely leads the vanguard with three other nations, Germany, England and France. We have produced at least ten times as many great scientists in the last century as has, for example, Italy, the home of Galileo.

As a preliminary to tracing the path of America's progress in the development of science, we shall first consider conditions at home and abroad 200 years ago when America was in her infancy and when modern science the world over was very young.

European universities at that time had already been established for over 500 years, literary and scholastic efforts and ideals had taken vigorous root, research facilities were already extensive, and Europe was in the midst of the scientific Renaissance. England had come through her political revolution and most of the Continental nations were established.



Ewing Gallouay



HENRY AUGUSTUS ROWLAND (1848-1901), GREAT PHYSICIST  
OF JOHNS HOPKINS

Yet how many great scientists had Europe produced before 1729? Hardly more than twenty outstanding names measure the achievement of all Europe in all branches of science, from Roger Bacon in the Thirteenth Century to Newton in the early Eighteenth; eight Englishmen, four Italians, three Germans, one Hollander, one Pole, one Belgian, one Frenchman and one Dane standing forth prominently, with another half dozen that might be added. And if we limit this count to mathematics, theoretical astronomy and mechanics, the only branches of science securely grounded in these 500 years, half this number covers the record of attainment. In the physical sciences only two conspicuous contributors per century was Europe's average up to 1729. Chemistry, geology, biology and psychology were then mere labels for unsolved problems, labels largely unintelligible, for these fields had as yet not even begun to be cleared of superstition and crass misconception. Of the premier mathematicians and physical scientists during this half a millennium it is hard to find a single name to add to Roger Bacon, da Vinci, Copernicus, Descartes, Gilbert, Kepler, Galileo, Boyle, Huygens, Leibnitz and Newton.

Compare this half millennium of Europe's scientific beginnings with America's single century from the landing of the Pilgrims in New England. During this shorter period isolated outposts of civilization in a vast wilderness had been hewn and held in the midst of savagery; only unceasing vigilance kept the hostile Indians at bay, and only unceasing toil wrested the land into productivity. America's most bitter critics stay their slings when

they look upon the record of this early colonial period of hardship and misery, when the young colonies were battling with elemental dangers and struggling for a foothold to live. Under these conditions, how produce even one conspicuous physical scientist? Yet even then, in the early Eighteenth Century, this youngest and poorest equipped of the nations in things scholarly somehow found time between taming the earth and fighting the Indian to produce two of the world's greatest physicists, Benjamin Franklin and Count Rumford, besides several other physical scientists worthy of mention.

Benjamin Franklin (1706-1790) was an established educator, newspaper correspondent and literary writer in Philadelphia, and had founded the *Saturday Evening Post* and the academy which later developed into the University of Pennsylvania, by the time he was forty years old. Then he began the experiments in frictional electricity which placed him among the illustrious men of science. In 1747 he advanced his famous "one-fluid" theory, which premises that all bodies possess electricity but show no signs of it unless by some means they receive a surplusage, when they may be said to be "positively charged," or lose some of their normal portion to other bodies, when they may be said to be "negatively charged." This simple explanation was quickly accepted throughout the scientific world in Europe and has sufficed even to this day to elucidate all ordinary static electrical phenomena; it is now being revived. Electricity in Franklin's day was surrounded with misconception. Weird beliefs, such as that goat's blood, garlic, melancholy and seduction influenced or were influenced by magnetic attraction, were held with regard to electrical and magnetic causes and effects, and current electricity was unknown.

In Franklin's experiments with the Leyden jar, invented not long before in Europe for the purpose of collecting and intensifying electrification by friction, he had made use of pointed rods for "drawing off and throwing off the electrical fire," as he said, and had observed the striking resemblance between the Leyden jar discharges thus effected and the phenomenon of lightning. He then determined to see if he could draw down the lightning along a silken string attached to a kite. His success in this novel and startling experiment is known to all. It won him universal recognition, honorary degrees from Oxford, Edinburgh and St. Andrews, his election as a fellow of the Royal Society, and the award by England of the famous Copley Gold Medal, recognitions than which no higher could be bestowed on any scientist in that day. And his brilliant and clarifying hypotheses cleared the field and laid the foundations for the remarkable developments which soon followed.

Not less notable was the career of Count Rumford (1753-1814). Born Benjamin Thompson, in Woburn, Massachusetts, he received his scientific training at Harvard under great difficulties and privation, and afterward went to Europe where he rapidly rose into prominence in the scientific, social, military and political life of three nations. In England he became under-secretary of state, founded the Royal Institution of London and was knighted. In Bavaria he was created Count Rumford, served as privy councilor, chief of police and minister of war, and so revolutionized social conditions in Munich as an exemplar of the brotherhood of man that, when he



lay desperately ill, a foreigner and a Protestant in a Catholic community, the poor of the city spontaneously offered public prayers for his recovery. In France he married the widow of the distinguished French chemist Lavoisier and became the close friend of Napoleon, Lagrange, and Cuvier. The Czar of Russia urged him to come to St. Petersburg, and President Adams offered him the post of superintendent of the American Military Academy and inspector general of the artillery of the United States. Such a career would seem to leave little time for scientific pursuits. Yet the whole of Rumford's mature life was one vast experiment in science, whether in his plan, never fulfilled, to survey the White Mountains, his research into the action of gunpowder and projectiles and the nature of heat, his introduction of improved methods of horse breeding, or his social experiments. The whole world was his laboratory, and every experience an opportunity for research.

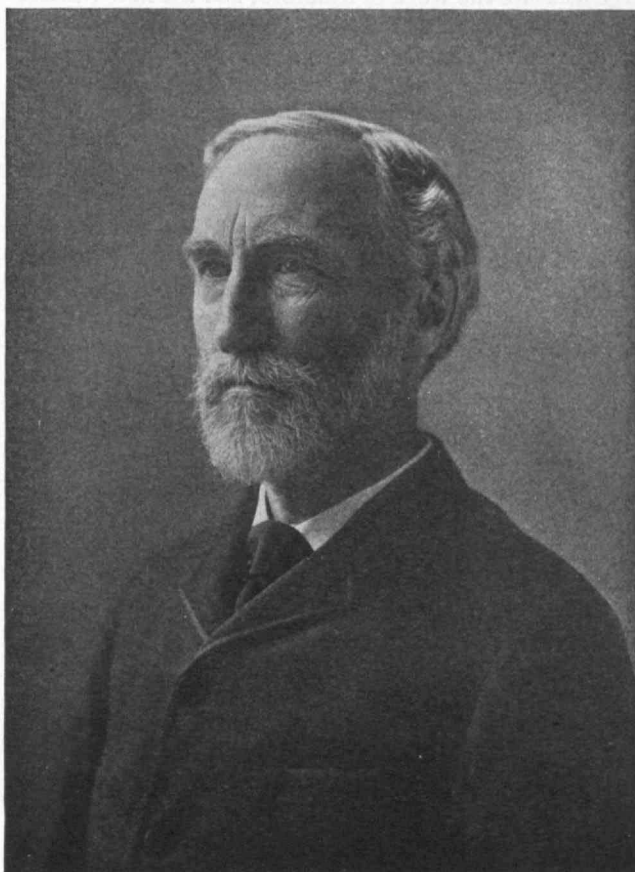
His chief claim to scientific distinction rests on his investigations into the nature of heat and his attack upon the theory of imponderables. This latter was a something manufactured out of whole cloth to attempt to explain well-known physical phenomena. There were several "imponderables." Thus "corpuscle" was thought to have something to do with the propagation of light; "caloric" was presumed to be a substance a body drew into itself when heated and lost when cooled; "phlogiston" was supposed to be given off by an object when burning; and "effluvium" was considered to have something to do with the behavior of electricity. The whole subject of heat was entangled in fantastic suppositions concerning the properties of "caloric" and "phlogiston." Heat and fire were both considered tangible substances. Nothing could be accomplished toward a better understanding of the various manifestations of energy so long as the imponderables continued to raise barriers between heat, light, electricity, and magnetism. Rumford suspected that heat has no material existence, and in 1798 while boring cannon in a military workshop he decided to put the caloric theory to test. His experiments convinced him that heat is a form of motion caused by friction of one body against another, and that caloric was an empty assumption. By this time the chemists had demonstrated that phlogiston also was meaningless. Hence Rumford looked forward to seeing "caloric interred with phlogiston in the same tomb." This did not happen, however, until the middle of the Nineteenth Century. But meantime Rumford's experimental proof led the way to the discrediting of other imponderables, to the reduction of all forms of energy to modes of motion in a circumambient medium, and to a focusing of attention upon the nature of the ether and the source of motion in the structure of the atom.

Thus these two native-born Americans, Franklin and Rumford, contributed preëminently to the advance of physics. Nor were there lacking other prominent American scientists of the colonial period, notably John Winthrop of Harvard, friend of Franklin and teacher of Rumford, and David Rittenhouse of Philadelphia, widely recognized astronomer of his time.

While America was producing at least four eminent physical scientists in her first century of scholarly activity, Europe in her sixth century (during the same period

from 1730 to 1800) produced about a score; half of them in France, five in Great Britain, two each in Italy and Switzerland, and one in Germany. Europe's outstanding achievement in the Eighteenth Century was the establishment of chemistry by several noted Englishmen (Black, Cavendish, and Priestley) and the great Lavoisier of France, who was beheaded during the French Revolution because "*La Republique n'a pas besoin des savants*" — a democracy has no need for the learned!

THE Nineteenth Century saw unprecedented development in all branches of science. Mathematics, astronomy, physics and chemistry were fairly well under way at its beginning, and the practical applications of these sciences before it closed had literally transformed the material environment of man and laid the foundation for three new sciences, geology, biology, and psychology. The development of the sciences discloses a definite hierarchy and may be likened to a building, mathematics the foundation, physics the first floor, chemistry the second, modern astronomy the third, and geology, biology, and psychology the fourth, fifth, and sixth respectively. The Nineteenth Century laid the foundations and built the lower stories, that the Twentieth might raise the superstructure. In this steady advance the United States not only made the practical applications of science to art and industry, in which she is justly considered preëminent, but also bore her share of the work in establishing the fundamental principles of physical science without which such applications would have been impossible.



JOSIAH WILLARD GIBBS (1839-1903), THE "NEWTON OF CHEMISTRY"



KENYON COX'S MURAL "THE SCIENCES," IN THE LIBRARY OF CONGRESS

Curtis &amp; Cameron

Turn now to a comparison of scientific achievements in America's second century of scientific activity with Europe's seventh. During this period Italy waned, Holland and Switzerland stood still, Scandinavia and Russia went forward, but none of these produced more than six scientists of note. Great Britain, the United States, France and Germany form a class by themselves in modern scientific accomplishment, each producing more than thirty scientists of outstanding excellence, with Germany showing the greatest relative advance and the United States next. But it should be added, both Great Britain and France began the Nineteenth Century with a larger number of scientists, and their absolute contributions in the succeeding hundred years were close behind those of Germany. England's impetus followed in large measure the work of Rumford, and the new world's direct contribution was worthily represented by men like Joseph Henry (1797-1878), a New Yorker prominent in mathematics and physics, an outstanding experimentalist in the field of electricity, inventor of a number of important electrical devices, and the formulator of the principles on which Morse later perfected the mechanism of telegraphy. The adoption by the International Electrical Convention of the henry, along with the ampere, the volt, the ohm and the farad, indicates the place that this Nineteenth Century American holds in the world of physics today.

Meantime two Englishmen, two Germans, an Italian and a Russian — Davy, Dalton, Wöhler, Liebig, Avogadro and Mendelyev — played the important rôles in the advance of the young science of chemistry, particularly in the isolation of elements, the determination of their atomic weights, the establishment of the meaning of atoms, molecules, valences, radicals and chemical formulae, and in the phenomenal rise of organic chemistry. But the effects of pressure, temperature, light, electricity and motion upon chemical change — effects of much greater import for chemistry than the developments just mentioned — could hardly be ascertained until the physical processes were themselves clearly understood.

General or inorganic chemistry remained undeveloped until after the middle of the Nineteenth Century, when it received a basis for advance in the conservation of energy and the electromagnetic theories which were enunciated and established through the work of a group of brilliant Englishmen and Germans — Joule, Kelvin, Mayer, Helmholtz, Faraday and Maxwell.

It was at this point that America's greatest contributions to recent physical science began, with Josiah Willard Gibbs (1839-1903), mathematician, physicist and chemist, who has rightly been called the Newton of chemistry. He was born in New Haven, graduated from Yale, went to France and Germany for advanced study, and then returned to Yale where he held the chair of mathematical physics for the rest of his life. His two notable books, "The Equilibrium of Heterogeneous Substances," and "An Elementary Treatise on Statistical Mechanics," were published between 1875 and 1880, and he also contributed to the subject of vector analysis and applied the results to crystallography, to the theory of light, and to the closer computation of the movements of the heavenly bodies. Building upon the physical principles worked out by his predecessors, Gibbs, with his penetrating insight into the mathematics and physics of chemical processes, cleared away the obscurities and perplexities hampering progress in general chemistry, and laid the foundations for further constructive advance. His high attainments have only recently come to be fully understood and appreciated, though his work was recognized abroad before it was recognized here.

A NOTABLE contemporary worker with Gibbs in the United States was H. A. Rowland (1848-1901), whose improvement in spectroscopic method, through the contribution of his concave reflecting grating, enabled the chemist to penetrate more deeply into the structure of the atom. He also contributed extensively to the study of heat, electricity and magnetism.

While the principles of general chemistry were thus being formulated by Gibbs, and investigations into atomic structure were holding the attention of many scientists both at home and abroad, another group was pioneering in the study of the ether. Two American physicists, Michelson and Morley, achieved amazing results in the interferometer experiments which led to an almost complete overthrow of accepted ideas in physics, and to the revolutionary hypotheses of Einstein. Equally important have been American contributions to physical advance in very recent years, as, for example, Professor Millikan's measurement of the electron and Professor Theodore Richards' researches into atomic weights. The work of American physical scientists has become second only to the discoveries by Europeans of the x-ray, radio-activity and the electron, and the launching of the theories of Einstein and Planck. (Continued on page 254)



# BUSINESS DISCOVERS HEALTH

## *Commerce Employs Science to Aid Public Well-Being*

BY JAMES A. TOBEY

**A**MONG the pernicious attitudes of the past was the reactionary idea that a reputable professional worker was tainted by any commercial connection, no matter how ethical the business might be. Such a sordid association was once considered degrading, debasing, and a descent to Avernus. As a matter of fact, this Avernian decline is not only arrested, but is frequently reversed when business captures the scientist. The odium formerly attached to the professional man in industry has been largely dispelled because many eminent scientists, including some of the former critics of the relationship, have become voluntarily united with commerce. Such arrangements are obviously of mutual advantage to ethical business, to the professional man himself, and to the public.

Modern business needs and desires scientific ideals. When technical direction and advice are required, it wants such service. Getting good counsel and using it means that both producer and consumer will benefit. Strange as it has seemed to the more retrogressive of the critics of scientists in business, profits and public service are by no means incompatible, but both are enhanced when professional persons lend their skill and their ideals to commercial pursuits. This fact has been well demonstrated in the field of public health. When an eminent health worker becomes associated with an industry having a product or a process of real significance to national vitality, as so many have, the change is usually not a cause for complaint, but for celebration.

The adequate and reasonable promotion of the public health is always good business, whether performed by the accredited health authorities, indulged in by voluntary health associations with paid executives and workers, or undertaken by business organizations which incidentally profit from ethical and proper health activities. If the people as a whole are actually benefited and not exploited or harmed, such endeavors are worth while for all concerned.

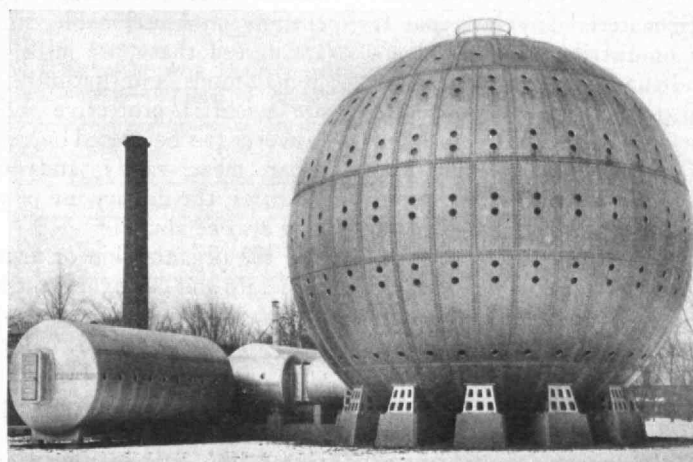
No one would claim, of course, that all business groups religiously refrain from exploitation of their own products in their own interests. But, then, business is not the only agency which can be accused of mercenary tendencies. Recently the New York Academy of Medicine charged that commercialism was rife

among the followers of Æsculapius in that metropolis, citing such "glaring abuses" as overcharging, unnecessary operations, publicity seeking, and fee-splitting, in a report drafted by thirty-six of the most distinguished members of the local medical profession. "It is regretted," says this cogent report, "that in many instances physicians are willing to place greater financial rewards on a higher plane than their professional standards." The same indictment can be brought against the ambulance-chasing and litigation-stimulating lawyer, and even the engineering profession possesses mercenary members. There are shysters in science and in the professions as well as elsewhere.

Modern business has, in general, as high standards of ethics as have the best representatives of the acknowledged professions. The ideals are more adaptable to trade, but in every so-called big business, altruism, humanitarianism, and an honest desire to be of service in the most effective and honorable manner are invariable characteristics. This policy is also undeniably good business, and it pays returns on the investment. An example of a valuable endeavor in the health field will demonstrate this fact.

**T**WENTY years ago a leading life insurance company established a Welfare Division to cope with unnecessary sickness and premature deaths among its industrial policy-holders. This division began a health educational campaign in the creditable endeavor to reduce the mortality among its policy-holders, which in 1911 was several points higher than in the general population. During the next two decades, this company spent about seven million dollars for this purpose, as well as some three times as much money for curative aid to its constituents.

Was it worth while? The answer is categorically in the affirmative. Between 1912 and 1926 there were 417,628 fewer deaths among the industrial policy-holders of this company in the United States and Canada than if the 1911 rate had prevailed, and there were 63,330 fewer deaths in 1926 alone. In dollars and cents this decrease meant a saving of \$71,500,000 in death claims. Compared with the mortality of the general population, the saving was more than \$53,000,000.



*Ewing Galloway*

SANITARIUM FOR OXYGEN TREATMENT BUILT IN CLEVELAND BY H. H. TIMKIN, AFTER SUCCESSFUL EXPERIMENTS BY DR. O. J. CUNNINGHAM OF THE UNIVERSITY OF KANSAS. PATIENTS LIVE IN THE SPHERE UNDER A PRESSURE OF FIVE TO THIRTY POUNDS ABOVE NORMAL

It is obvious that the \$26,864,615.47 for welfare and curative aid had been profitably spent. Other companies have obtained similar results.

Life insurance companies have been among the leaders in the commercial phases of health work. The Metropolitan Life Insurance Company of New York and the John Hancock Mutual Life Insurance Company of Boston have been and are especially prominent in this field. They distribute innumerable authoritative pamphlets, prepare and send out health films, provide lecturers and exhibits, finance research, and supply efficient nursing services. These companies are ably and conscientiously directed in such endeavors and by their efforts have made many real contributions to our public health program.

Although the life insurance companies were among the pioneers in commercial health work, today they perform only a fraction of the many activities of this nature. Food concerns, soap and tooth paste manufacturers, and other industrial groups are zealously undertaking popular health instruction of a high order, sometimes as the responsibility of a single concern, but often through an agency representing and supported by the whole industry. Two of the most noteworthy of these quasi-commercial organizations are the National Dairy Council, Chicago, established in 1919, and the Cleanliness Institute, New York, created by the soap manufacturers some two years ago. These agencies are meticulous in securing the advice and assistance of leading scientists, and their material is authentic, valuable, and usually much more satisfactory than that which emanates from official or voluntary health groups.

In a recent health inventory of New York City, conducted under the auspices of the Welfare Council of that community, the statement is made that "most agencies use publications of commercial firms, and a number prefer them to other literature, as they are usually more attractive and therefore more popular." This report, however, bewails the fact that more concerns do not coöperate with social welfare agencies, or vice versa, in the preparation and distribution of such material. This is a sign of the changing attitudes. At one time, no health group would demean itself by using commercial health literature, but now sanitarians realize that business is going to issue health material anyway, that it usually has better channels of distribution and advertising than other groups, and that it has the confidence of the public, and so the logical procedure is to coöperate with business so as to assist and guide it in producing and putting out material which is useful, scientific, and moderate. Business welcomes this kind of coöperation.

The magnitude of industrial operations in the health field is revealed by the estimate of a reliable observer, a former social worker who now directs the destinies of a trade association, that business spends half a million dollars a day on employee health and social service, and an equal amount on educational activities pertaining to health. Three hundred million dollars a year is a sizable lump in the economic affairs of the nation. It is, in fact, about four times as much as the combined budgets of our federal, state, and municipal health departments. Leaving out of account industrial medicine and hygiene, which is good business in any factory, office, or store, commercial health education is a large item.

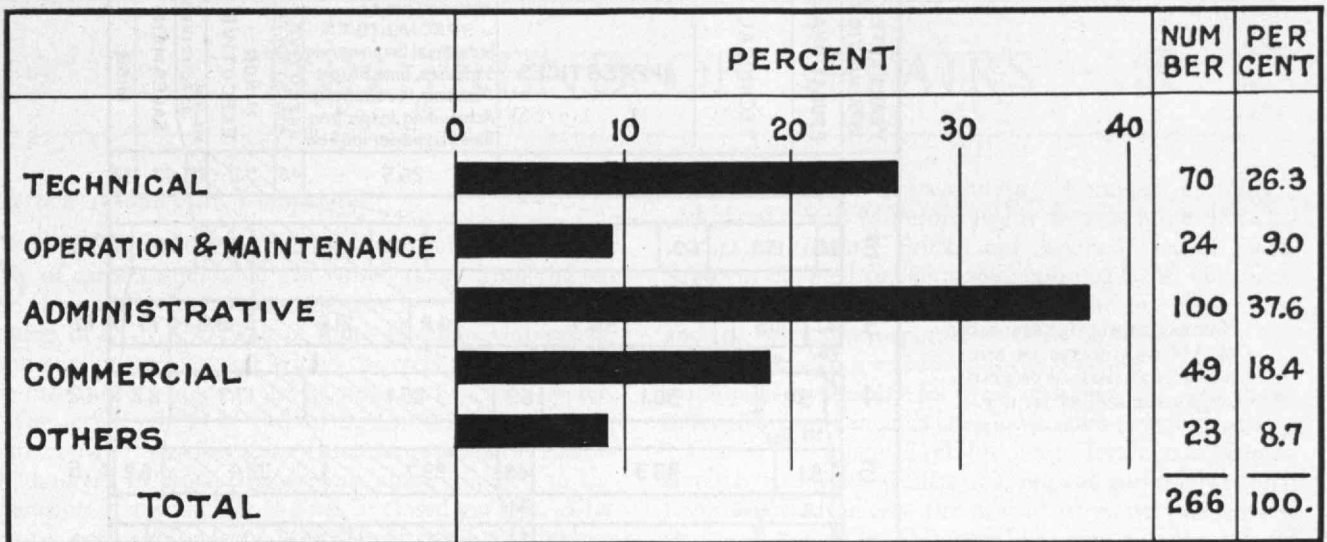
Among the many organizations which have something to contribute in the way of decent health propaganda are the American Institute of Baking (Chicago) and the National Food Bureau (Wichita, Kan.) for the bakers, the American Institute of Meat Packers (Chicago), the American Dry Milk Institute (Chicago), the Evaporated Milk Association (Chicago), the National Association of Ice Cream Manufacturers (Harrisburg, Penna.), the National Cheese Institute (Milwaukee), the National Confectioners' Association (Chicago), the California Fruit Growers Exchange (Los Angeles), and such individual concerns as Borden, Colgate, Cream of Wheat, Frigidaire, Kellogg, Postum, Quaker Oats, Squibb, and United Fruit, to mention only a few. Capital and labor are alike interested in public health, as the Chamber of Commerce of the United States (Washington, D. C.) has a well-developed health program, with technical advice from the American Public Health Association, and there is a Worker's Health Bureau (New York).

NOT every individual business firm or trade association is pure and unsullied in its so-called health activities. The prosperity of a particular business or product is sometimes of far greater concern than the general welfare of the public. Recently we have had a discreditable exhibition of unethical advertising by cigarette manufacturers who have been trying to delude the public into believing that this form of tobacco can contribute to lissome slenderness, or can soothe throats, or calm nerves, all of which is bunk, and the people know it is. Paid testimonials only aggravate this offense, and have brought down on the offenders the wrath of the Federal Trade Commission.

The public is sometimes bewildered in trying to distinguish between rank propaganda and helpful advice. Extravagant claims are made for this or that product and when several such assertions clash, the public wonders which is correct and often decides that none is. It is often a nice question as to what is propaganda, in the iniquitous sense, this inquiry frequently arising in connection with foods. Ardent advice to drink milk and to eat more green leafy vegetables and fruits may be entirely unobjectionable, since all progressive scientists are agreed that pure milk is the most valuable of all human foods, and that milk, fruit and certain vegetables are essential protective foods. What boundaries are, however, to be placed on propaganda for coffee, cereals, sugar, meat, candy, and numerous other edible commodities, the dietary use of which can be beneficial, but may also be abused?

If the organization or firm advocating the product is moderate and not exuberant in its recommendations, and fits the substance into its proper place in a well-balanced diet, all well and good. If, for example, the coffee growers engage the services of a reputable scientist and give him carte blanche to make an impartial investigation of that aromatic beverage, and in due course of time, after investigation and deliberation, he reports that when properly prepared, and used in moderation, good coffee will not harm normal, average adult individuals, the coffee interests are not to be blamed or considered criminals if they broadcast that (*Continued on page 256*)





OCCUPATIONAL CLASSIFICATION OF 266 ELECTRICAL ENGINEERS MORE THAN SEVEN YEARS OUT OF COLLEGE

## WHAT ENGINEERS BECOME

*Is Executive Leadership To Be Anticipated by Technical School Graduates?*

BY ERWIN H. SCHELL

RECENTLY I have had occasion to examine the literature of the last few years which relates to the engineer in the field of management. While the survey left much to be discovered, one fact was definitely established. The recent past has indeed been the open season for after-dinner addresses on this topic. Apparently when the hard-working secretary of the national organization undertakes the preparation of the convention program his telephone conversation with the Drawing Card runs something like this:

"We would indeed be honored if you would be willing to address our convention at the closing banquet on June 11."

"What do you want me to talk about?"

"Our committee felt that 'Religion in Business' would be an excellent topic."

"Rather not, just at this time."

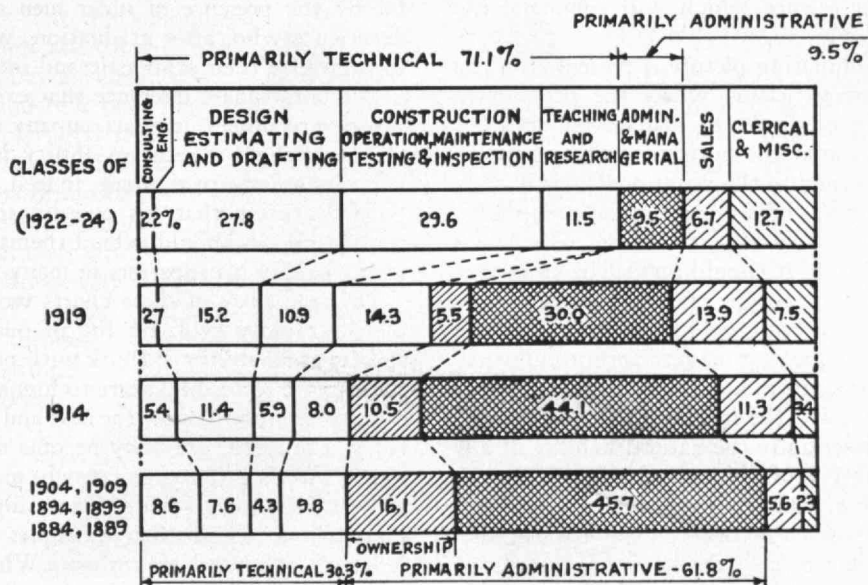
"How about 'The Industrial Outlook?'"

"Out of the question, my secretary is away."

"Perhaps 'The Engineer as a Leader' would do?"  
"I have a few ideas on that, glad to talk extemporaneously."

Against this barrage of opinion, advice, and prediction two publications stand in fine contrast. The Society for the Promotion of Engineering Education published in 1926 two occupational studies of engineering graduates. One investigation had to do with the records of 844 electrical engineering graduates (Bulletin Number 8); the other with something over 6,000 graduates of engineering schools (Bulletin Number 3). Here are objective data which are accurate and dependable.

To compress the findings of these two researches is to distort them unfairly. The complete reports are worthy of study by any engineer who is interested in the trend of his profession or who wishes wisely to guide those of engineering talent younger than he. Certain



PROGRESSIVE TREND OF ENGINEERING GRADUATES TO MANAGERIAL DUTIES AS REVEALED BY A STUDY OF OVER 6,000 GRADUATES OF ENGINEERING SCHOOLS

OCCUPATIONAL DISTRIBUTION  
OF 334 GRADUATES IN ENGI-  
NEERING ADMINISTRATION  
(COURSE XV) AT M. I. T.

YEARS AFTER GRADUATION	EDUCATIONAL	TECHNICAL	APPRENTICES	FUNCTIONAL SPECIALISTS Industrial Engineering Statistics, Time Study Planning, Purchasing Accounting, Inspecting Sales Engineering &c	EXECUTIVE ASSISTANTS	MINOR EXECUTIVE	MAJOR EXECUTIVES	SALESMEN	MISS.
1	6.8	13.2	26.8	26.5	4.3	9.2	2.1	6.7	3.8
2	3.8	15.0	6.9	31.0	7.7	16.2	7.5	9.0	2.9
3	4.1	10.5		34.7	6.8	21.6	10.8	7.1	1.7
4	9.0		30.1	6.3	25.1		17.7	8.2	1.2
5	8.1		33.3	4.8	23.7		22.4	6.2	.5
6	9.8		30.7		22.1		27.0	4.3	1.2
7	8.6	23.3	4.3	21.5		36.2		3.5	1.7
8	10.7	17.3		24.0		36.0		6.7	2.7
9	7.7	5.1	28.1		46.2			5.1	5.1

statements concerning the findings can be made, however.

In the study of electrical engineering graduates a group of 266 men were found to be graduates of more than seven years' standing. A classification of these men in terms of occupations is shown at the top of the preceding page. It is clear that those in administrative work are in larger number than those combined in technical, operation, and maintenance activities. Younger graduates, on the other hand, are shown by the report to lay greater emphasis upon technical activities — a logical condition as executive leadership in any field should be built upon an earlier proficiency in some aspect of the art or science which will command the respect of the led.

An even more illuminating picture is presented in the second mentioned investigation where the progressive trend of engineering graduates to managerial duties is presented in chart form at the bottom of the preceding page. Here, we can visualize the vocational current flow of over 6,000 engineers, and we can see the swing from primarily technical activities into those which are primarily administrative. It should further be clear that this transition is not an abrupt one. Engineers do not have to leave the engineering field in order to become managers. Indeed, our greatest manufacturing industries with their vast investments in highly complex machinery and other equipment, and the increasing technicality of their products, are essentially the natural habitat of the engineer. He is a native of these lands, he speaks the language and is free from the confidence-destroying, inner fear that comes with ignorance of fundamentals.

A somewhat similar picture results from a study of occupational trends among 334 graduates of the Course in Engineering Administration given at Technology. (See

above.) The greater emphasis given in this course to subjects of an economic and industrial nature probably accounts for the wider diversity of initial occupations undertaken by graduates. The trend from apprentice to functional specialist and thence to minor and major executive posts is obvious, although the distinction between the last two groups is overemphasized. The so-called major executives frequently hold such positions in small or medium sized concerns while the minor executives though of lesser title carry equal weight of executive responsibility in larger organizations. The early appearance of major executives in the chart is accounted for by the presence of older men of previous business experience who, after graduation, were enabled quickly to capitalize their scholastic and industrial background.

The unfortunate inference that executive positions are superior to others, may accompany the showing of such charts as these. Executive ability is only one of many varieties of industrial virtue. Indeed, it is an axiom of the good executive that his coördinating and interpretive responsibilities should extend themselves over men who are avowedly his superiors in many things.

The true story of these charts would seem to be that in this rapidly evolving life of ours such personal resources as an ability to think with precision, a facility in turning the forces of Nature to human account, a zest for inquiry, an eagerness for the new and better, and humility before the truth, are daily become more precious to the world's welfare. That they may be more widely practised, technical school graduates increasingly are being placed in positions where their examples may stimulate and influence the work of others. Whatever may be the reasons, there is no question but that management has become an important responsibility of the engineer.





## *Carbon Monoxide Conquered?*

**S**OLUTION of the problem of overcoming the dangers of carbon monoxide gas which pours from the exhaust of every automobile may be hoped for in the studies of Dr. J. C. Frazer of Johns Hopkins University, who announces a process which converts carbon monoxide into carbon dioxide, the harmless gas of soda water.

The lethal effects of carbon monoxide, the colorless, tasteless, and invisible gas, which has caused the deaths of hundreds of motorists, are not alone confined to the operation of automobile engines in closed garages. A far greater problem, and one which is attracting increasing attention, is contamination of the atmosphere by the gas from thousands of automobiles.

Although tests made in large American cities have shown that the amount of carbon monoxide in the air is well below the fatal limit, some health authorities are considering the possibility of slow chronic poisoning among those, who, living in our large cities, continually breathe air contaminated by automobile exhaust gases.

The United States Bureau of Mines has found in a series of careful tests that gases from an automobile motor may contain as much as 14% carbon monoxide. The average amount is estimated to be about 7%, which would bring death in a small closed garage in less than ten minutes. As small an amount as one-hundredth of one per cent of carbon dioxide has been found to be dangerous, and one per cent may be a lethal dose.

Dr. Frazer's device, which has already had exhaustive laboratory and service tests, employs chemical catalysis as its method for converting a deadly gas into carbon dioxide, a most healthful one. He has not yet made public the name of the catalytic agent by which this conversion is brought about, but the announcement of his process indicates that it has been proved successful beyond the merely experimental stages, and that only mechanical means of applying it remain to be perfected. That any method for eliminating the dangers of carbon dioxide would be considered a major development in the protection of the public health is indicated by the great interest of public health officials and the automobile industry in the possibilities of Dr. Frazer's process.

## *Windowless Buildings*

**A**RCHITECTURAL critics have criticized the modern building for being

more of a machine than a house. "A modern building," complains Lewis Mumford in his notable book of architectural criticism, "Sticks and Stones," "is an establishment devoted to the manufacture of light, the circulation of air, the maintenance of a uniform temperature, and the vertical transportation of its occupants . . . the habit of punching windows in the walls of the building-machine is responsible for great leakages . . . the maximum efficiency demands the elimination of windows."

Claims for a new daylight lamp developed conjunctively by the General Electric Company and the National Lamp Works forecast the advent of these windowless structures which Mr. Mumford holds to be a logical end to the continued defilement of architecture by engineering. This new "Sunlight Lamp, type S-1" will not only give light for visual purposes, according to Dr. M. Luckeish of Nela Park, but from it will emanate synthetic, health-giving sunlight with all its powerful rays.

In describing this light-source which simulates the sun, Dr. Luckeish says: "A tungsten filament operates in parallel with a mercury arc between tungsten electrodes. The hot filament near a pool of mercury vaporizes the latter and the arc is completed almost instantly after the switch is on."

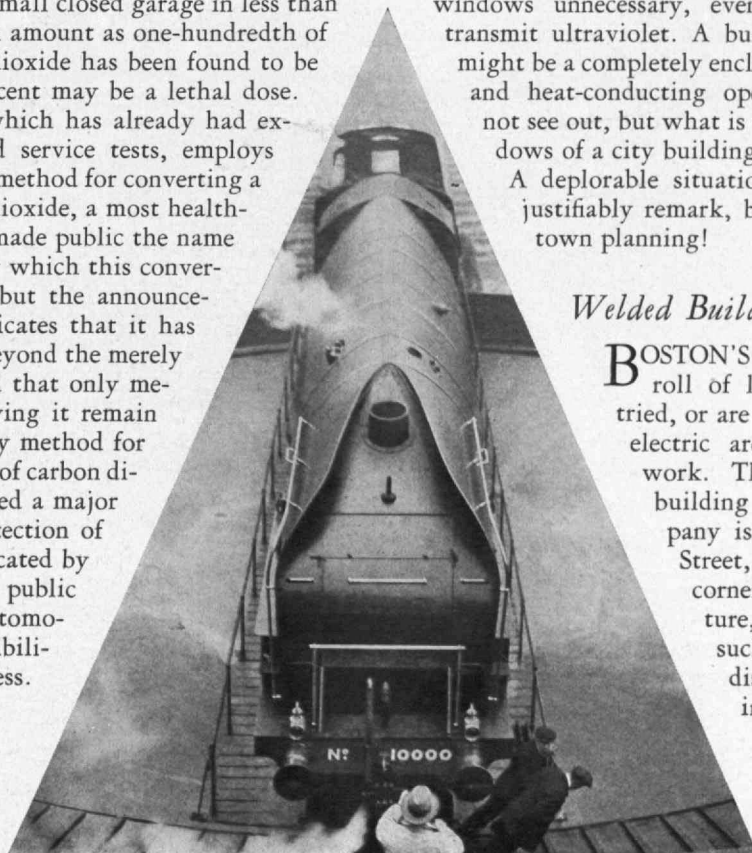
The use of this light, should it be perfected, would make windows unnecessary, even windows designed to transmit ultraviolet. A building using these lights might be a completely enclosed unit free from sound- and heat-conducting openings. Occupants could not see out, but what is there to see from the windows of a city building?

A deplorable situation, Mr. Mumford might justifiably remark, brought about by lack of town planning!

## *Welded Buildings*

**B**OSTON'S name is now added to the roll of larger cities which have tried, or are trying, the application of electric arc welding to structural work. The 14-story steel frame building which the Edison Company is putting up on Tremont Street, near the Boylston Street corner, is the initial local venture, or adventure, in erecting such a building without the discords of pneumatic riveting hammers. It is being built under the advice of Professor Frank P. McKibben, '94, of Union College, a recognized authority on electric welding.

(Continued on page 244)



NEW LOCOMOTIVE JUST COMPLETED FOR THE LONDON AND NORTH EASTERN RAILWAYS. IT OPERATES UNDER 450 POUNDS PRESSURE AND WEIGHS 170 TONS





*Engineering  
Contributions  
to Civic Beauty*

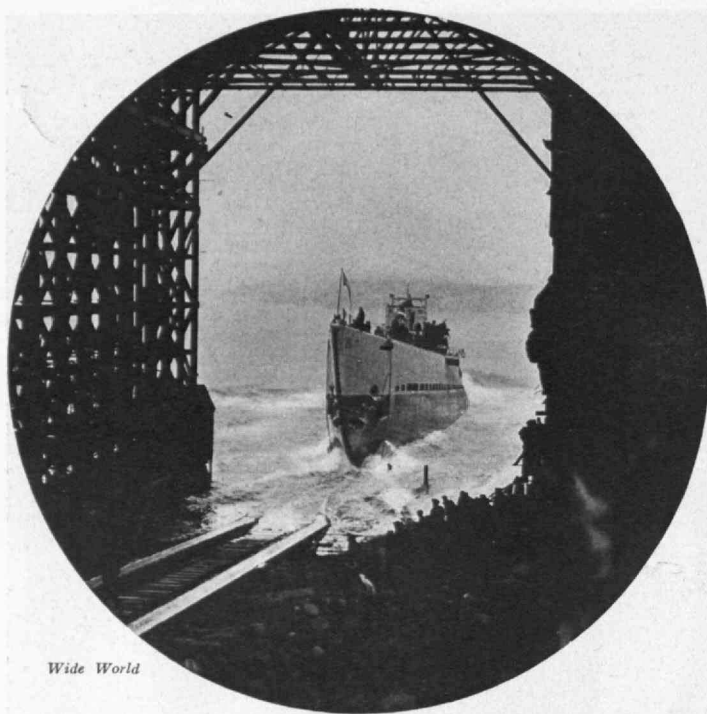
Two views of the new Cleveland Passenger Terminal, the estimated finished cost of which is to be \$60,000,000. It required the rerouting of the passenger trains of the New York Central for twenty miles, of the Big Four trains for twelve miles, and of the Nickel Plate trains for four miles. The Terminal is four miles in length, consisting of a station area covering some thirty-five acres. The thirty-four station tracks are, of course, electrified

The Terminal development will radically change the downtown section of Cleveland, substituting modern buildings for old, and providing new thoroughfares for traffic. It is a fine example of civic enterprise governed by a sense of beauty and dignity as well as utility

Henry D. Jouett, '00, is chief engineer

*Photographs by Margaret Bourke-White*





Wide World

LAUNCHING AT PORTSMOUTH, N. H., OF THE "V-5," AMERICA'S LARGEST SUBMARINE

There is really nothing particularly new about welded buildings — two years ago 43 of them existed in this country — but the rapidity with which the employment of this method is spreading is worthy of more than casual mention. In the space of a year the number of welded buildings increased 50% and the number of welded structures of notable dimensions such as bridges, cars, cranes, frames, towers, ships, and tanks, was 138 up to last summer, according to Professor McKibben's estimates.

Tests and experience have demonstrated that welding can be undertaken "with complete safety and with entirely satisfactory results." This has resulted in the Commonwealth of Pennsylvania legislating to permit its use in first-class cities, municipalities below that grade already being free to adopt their own codes. Also the uniform code of the Pacific Coast Building Officials Conference, including a section on welding, has already been adopted by 40 towns and cities, and model ordinances framed by the American Welding Society have found favor. Pittsfield, Mass., was the first to adopt them formally, and incidentally, Pittsfield is credited with being the first truly eastern city to incorporate welding in any form in its building code.

The possibility of welding as an agency to assist in approaching the goal sought by New York's Noise Abatement Commission, whose studies were commented upon in *The Review* last month, is apparent. About one-fifth of urban noise is charged against excavation and building machinery to which riveting hammers contribute a major portion. What it

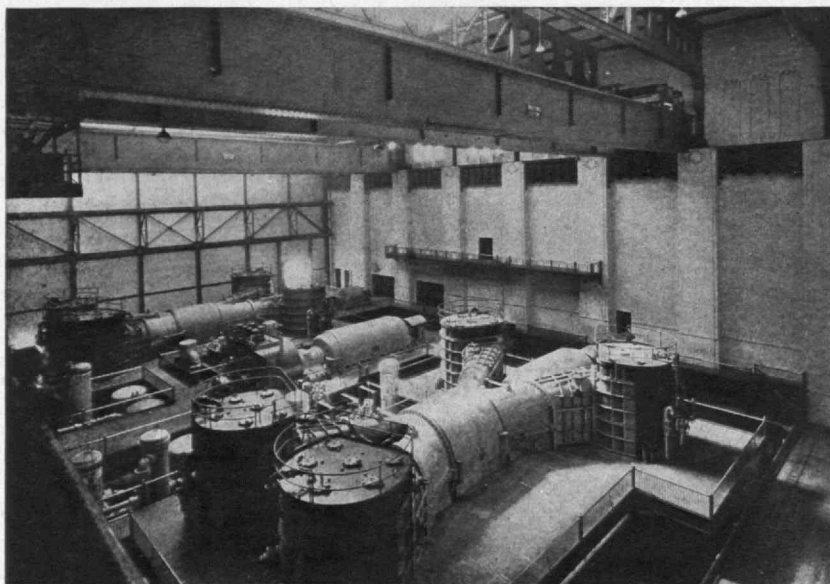
means to eliminate them was strikingly illustrated by extensions made last year by welding methods to a hotel in Atlantic City, quickly and quietly, without disturbing the guests or neighbors. The addition has a height of 134 feet which makes it one of the tallest welded-steel buildings in the world, and some of the steel columns supporting the structure and its heavy contents are of the heaviest type of steel shapes used in construction.

Besides reducing the noise incident to construction, the welding process introduces means for reducing the weight of a structure. This equally desirable factor was emphasized by a new type of arc-welded steel floor demonstrated at the last convention of the American Institute of Steel Construction. It is known as the "battledack" type and it utilizes steel plates and structural steel beams, a special automatic arc-welding machine being used to "stitch" the plates and beams together. Its cost is said to be not at all prohibitive; it is suitable for residences, multiple-story buildings, ship decks, and bridges; it might possibly save in dead weight from 20 to 60 pounds per square foot of floor, thus permitting an increase of 25% or more in the height of a tall building without increasing the load on the foundations.

Naturally the general use of structural welding will come slowly. The necessity of turning riveters into welders, of bringing designers to work in terms of welded joints, and of familiarizing contractors with the technique of welding construction means that probably ten years will elapse before the method gains widespread use.

### *Progress in Physics*

FOR all who are unable to enter the recondite abode of the Modern Physicist, there remains the consoling possibility of deriving philosophical substance from the crumbs dropped at the doorway. Such sustenance may be found in the following comments on Professor A. J.



208,000-K.W., 3-UNIT TURBINE-GENERATOR SET BUILT BY THE GENERAL ELECTRIC COMPANY FOR THE STATE LINE GENERATING COMPANY, HAMMOND, IND.



Dempster's (University of Chicago) experimental demonstration of the wave nature of matter which won the award given by the American Association for the Advancement of Science for the most noteworthy contribution to science during 1929:

ARTHUR H. COMPTON, Nobel Prize winner for Physics in 1927 — "The most important contribution of Twentieth Century physics has been the discovery that the physical world is composed of three kinds of particles: protons, electrons, and photons, and that each of these particles has also the characteristics of waves.

"The last stage of this work is the proof that protons, the positively charged parts of matter, have wave characteristics. It is this completion of the great work of Twentieth Century experimental physics which has now been achieved through Dempster's discovery of the diffraction of protons by crystal."

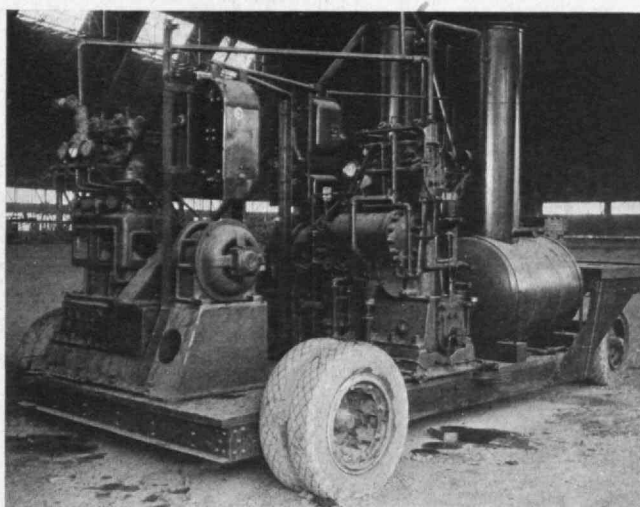
HENRY G. HALE, Head of the Department of Physics, University of Chicago — "Physicists seeking to explain the ultimate nature of things have believed that light was simply a wave form and that atoms, which consist of negative electrons around a positive nucleus or proton, were simply particles.

"Professor Compton in 1926 proved that light is not only a wave but a stream of particles, or photons, bundles of radiant energy. In 1927, two investigators at the Bell Laboratories, Davission and Germar, revealed that negative electrons are not only particles, but that each particle acts as a wave.

"The final evidence in the cycle has now been adduced by Dr. Dempster, who has proved that positive protons have also a wave form as well as particle form. These three discoveries are probably the most striking advances in physics in recent years."

Professor Dempster achieved his proof by photographing the behavior of a hydrogen atom through a calcite crystal and registering the waves on a plate. He explained the diffraction of protons by the crystal as being similar to the diffused appearance of sunlight through an umbrella, a phenomenon peculiar to things having a wave form.

"In these experiments, a calcite crystal takes the place of the umbrella and is used as a mesh to control the particles," he said. "The hydrogen protons in these experi-



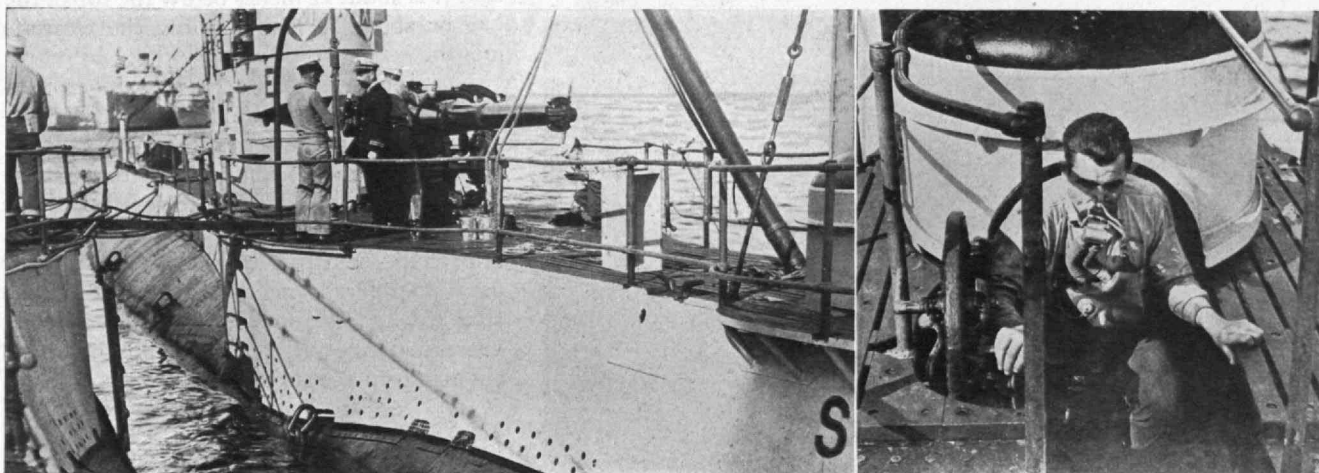
PORTABLE HELIUM REPURIFICATION PLANT DESIGNED BY THE HELIUM COMPANY OF LOUISVILLE, KY., FOR THE GOODYEAR-ZEPPELIN CORPORATION. IT CAN BE PLACED BESIDE THE AIRSHIP AND CAN REMOVE THE IMPURE HELIUM FROM THE BAG, REPLACING IT PURIFIED IN A SINGLE OPERATION. LOSS OF GAS BY THIS METHOD OF CLEANING IS ONLY ONE PER CENT. HITHERTO IT HAS BEEN NECESSARY TO SHIP THE HELIUM BACK TO THE PLANT FOR REPURIFICATION

ments penetrated the crystal in much the same way that light protons would, and their patterns on the photographic plate leave no doubt as to their wave properties.

"How protons, electrons, and photons can be both waves and particles at the same time is perhaps the greatest problem now confronting physicists. This experiment does not throw direct light upon that obscure relationship, but helps to clarify the problem."

### Safer Subs

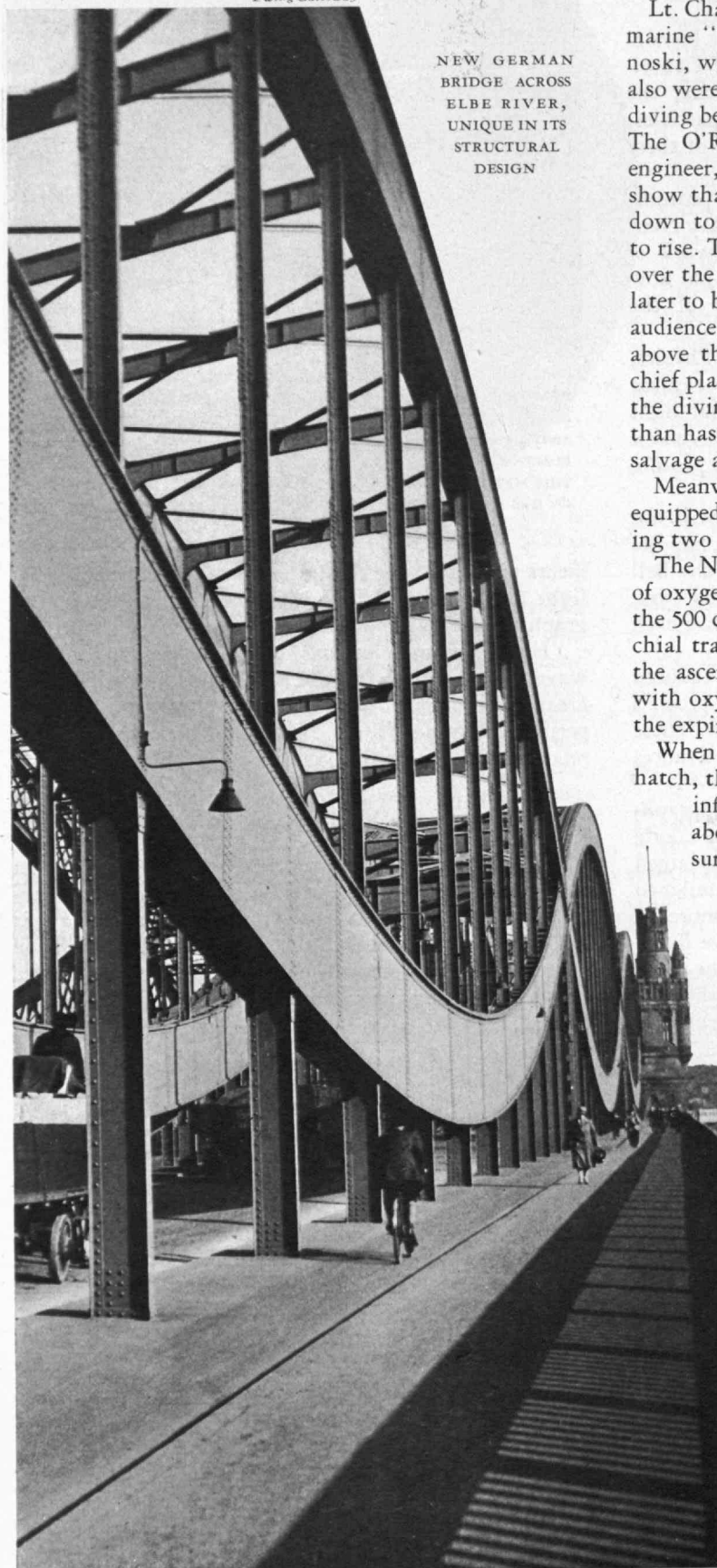
DESPITE the fact that the Naval Conference in London has considered the question of abolishing the submarine as a weapon of warfare, the United States Navy is carrying on experiments in the warm clear waters off the coast of Florida to make the under-water marauder safer for its crews, and, as a consequence, more dangerous to the enemy.



LEFT: VIEW OF NEW SAFETY-EQUIPPED "s-29," SHOWING THE "PAD-EYES" NEAR THE WATER'S EDGE TO WHICH CABLES MIGHT BE ATTACHED SHOULD THE SUBMARINE SINK. RIGHT: DEMONSTRATION OF THE MOMSEN LUNG USED IN ESCAPING FROM THE SAFETY LOCK ON DECK. SEE ABOVE

The hull of the submarine *S-4*, which was the death chamber of forty men when the craft sunk off Cape Cod in 1927, is being used for experiments, and it was in this

*Fwing Galloway*



NEW GERMAN  
BRIDGE ACROSS  
ELBE RIVER,  
UNIQUE IN ITS  
STRUCTURAL  
DESIGN

research ship that Navy men recently demonstrated the value of the submarine "lung" in making their escape from the vessel while she lay on the bed of the ocean 210 feet below the surface.

Lt. Charles H. Momsen, one of the inventors of the submarine "lung," and Chief Torpedoman Edward A. Kalsnoski, who were the first to try the mechanical "lung," also were the first on January 29, to descend in a new type diving bell and enter the submarine at a depth of 68 feet. The O'Rourke diving bell, invented by a Brooklyn engineer, was employed by Momsen and Kalsnoski to show that such a device might be useful in sending men down to enter and make repairs in a submersible unable to rise. They descended in the bell, which was made fast over the motor hatch of the *S-4*, and entered the vessel, later to be "rescued" in a grim little drama in which the audience, waiting on the deck of the U.S.S. *Falcon*, far above the darkened stage, could only guess what the chief players were doing. It is the hope of the Navy that the diving bell may be employed at far greater depths than has been possible by any other method in submarine salvage and rescue operations.

Meanwhile, all United States submarines are being equipped with the artificial lungs, each of the crew having two such devices at his disposal in case of disaster.

The Navy's mechanical "lung" does not carry a supply of oxygen, but makes use of the air that is contained in the 500 cubic centimeters of the wearer's lungs and bronchial tract. Under that pressure, there is enough air for the ascent. The breathing bag, moreover, is also filled with oxygen just before use. Soda lime is used to absorb the expired carbon dioxide.

When the man emerges from the escape lock or escape hatch, the breathing bag of the apparatus after its initial inflation, contains air or oxygen at a pressure of about one-half pound in excess of the pressure of the surrounding water. As the man ascends and the pressure of the surrounding water decreases, the air within the breathing bag tends to expand. Instead, however, of causing an over-inflation of the bag, with its consequent greater displacement, the excess air escapes from a vent valve on the bottom of the bag which is so located that it is about 12 inches below the top of the bag or about 18 inches below the wearer's mouth.

The ship's escape lock is a chamber communicating with a compartment by an airtight hatch. From one to three men can enter, close the hatch and admit water from below. This leaves an air bubble at the top of the lock. A second hatch at the side of the lock allows the men to escape. The lock can be used repeatedly if one man remains in it each time to close the outside hatch, open an air valve to blow out the lock, and then open the hatch to the submarine.

### *On the Ways*

WORLD shipbuilding is proceeding almost at a level with the rate of production just before the Great War and the



activity on this side of the Atlantic has raised the United States from seventh to fifth in a year. Lloyd's Register of Shipping, covering returns from all maritime countries, places the volume under construction during the last quarter of 1929 at 3,110,000 tons or only 8,000 tons under the 1927 figure which was the largest since the war-boom. The current aggregate includes 1,560,254 tons for the United Kingdom, 253,256 for Germany, 231,934 for Holland, 183,570 for Japan, and 179,062 for the United States. In the last quarter of 1928 world construction was 2,618,000 tons, of which 1,243,000 were British and but 48,000 American.

A revolutionary change in mercantile marine was foreshadowed by the appearance, in 1910, of the first ocean-going motorship, that is of a vessel driven by internal combustion engines. Motorship construction now represents about 56% of the present world production. It comprises 90% of the tonnage being built by Japan, Denmark, and Sweden; 80% of that by Russia and Holland; slightly less than half of the British total, and a quarter of the American. The *Britannia*, launched last August by the White Star Line, is 680 feet long with a tonnage of 27,840. She is the largest British-built motorship, being exceeded in size only by the Italian *Augustus* (33,650 tons), the largest motorship afloat.

While the first cost of a motorship exceeds that of a steam-driven vessel, the operating wage item is less, handling oil aboard ship is much less costly than handling coal, there is an increase in the dead weight available for cargo (due principally to the reduction in the weight of the fuel carried), and there is also an increase in the capacity of the space available for cargo because oil can be stored in odd-shaped bunkers such as between the outer and inner hulls. But motorships, despite any inference derivable from the great increase in their world tonnage, cannot compete with steamships on short runs.

Lloyd's figures disclose that the shipyards of Great Britain and Ireland, which in the years 1905-1913 built nearly two-thirds of the world's ships, are still building more than all other countries combined but now hold this position by a very narrow margin. Forty per cent of their business now comes from overseas, 10% from the Dominions, and 30% from elsewhere.

Oil tankers account for about a fifth of the present world tonnage and, while this is in the nature of a boom (without which Lloyd's figures might have indicated a severe shipbuilding slump, particularly in British yards), the development of this

Ewing Galloway

LOOKING UP THE SIDE OF THE ITALIAN STEAMER,  
"CONTE BIANCAMANO"



highly specialized transport service is shown by the fact that the world's oil tanker fleet has increased nearly five-fold since 1914. This has been due to an increase in the same period, from 1,310,210 to 19,421,000 in the tonnage of steamships fitted for burning oil and from 234,287 to 6,628,100 in the tonnage of motorships. The oil industry is now directly concerned in about a fifth of the mercantile marine of the world, and its interest in the world's navies is, of course, much greater. It should be pointed out, however, that the life of oil tankers is short, necessitating many replacements.

Last year was the best for American shipbuilders since the War. During 1929, 54 yards delivered 554 merchant vessels having a gross tonnage of 284,226, an increase of 22.3% over 1928. American tonnage now under construction is estimated to be 244% above that on order at the beginning of 1929. In a consolidated report from 48 shipyards it appears that 215 merchant vessels totalling 359,460 tons are building. Also plans for 51 vessels are reported to have been, or are being, prepared for building to carry mails under the new contracts to be granted by the Post Office Department, and 120 other ships for coastwise, intercoastal, or harbor service are planned.

THE provisions of the Jones-White Law, enacted in 1928, are responsible, not only for the 51 projected vessels mentioned above, but for the hopeful feeling that America may again become ship-minded, even though a majority of its population is removed from tide water. A century ago nine-tenths of our foreign trade went in American bottoms, in 1910 less than a tenth, today about three-tenths. The desire to restore the prestige which obtained during the "clipper ship era" has been prevalent, especially since the War, but obstacles, growing out of our protective tariff, in the way of building in the United States and of operating under American registry have seemed quite inhibitory.

Cost of building in British yards, for example, is less than half what it is in the United States; higher wages make the labor item for the operation of American ships double that under the British and three times that under the French flag; it has been difficult to borrow from the Government to finance construction and hitherto mail contracts have been awarded from year to year. The liquidation of war-built boats by the Shipping Board and its excursion into operating passenger and freight services introduced ruinous competition. This fostered foreign propaganda which was already encouraging doubts that the American people were "ship-minded" and hence had better avoid a large merchant marine.

Now under the Jones-White Law, a builder can borrow three quarters of the capital cost of his ship at the same rate of interest as is paid by the Government, and

the loan period may extend over twenty years. The act also makes it easier for the Shipping Board to sell its vessels to private owners and provides a means to bring about the ultimate elimination of the Government as an operating factor.

By allowing mail contracts to be made for ten-year periods, and by authorizing a higher rate of pay for carrying mail, an inducement is offered to compensate for the higher construction costs and the higher expense of operation as compared with vessels under foreign registry. Now, too, the holder of a mail contract can know better where he stands for he will not have to face annually the possible non-renewal of one of his important sources of revenue. Moreover, the rate per pound per mile is based on a sliding scale depending on the ship's speed and a

twenty-knot express steamer will get over five times the rate given a ten-knot boat. Thus an owner can afford to undertake the greater risks attendant upon building swifter vessels as well as their increased operating costs.

Tangible results of the Jones-White Law can be seen in 17 vessels now on the ways with combined tonnage of 215,600. Towards their construction the United States is lending \$45,641,687. The Ward Line, for instance, is being helped by a loan of \$6,450,000, to get two fast passenger liners so as to give 60-hour, instead of 72-hour, service, between New York and Havana. Also, although started before the passage of the act, its benefits will accrue to the Panama Pacific Lines operation of the *California*, *Virginia*, and *Pennsylvania*, which make the 5,600-mile run from New York to the West Coast in thirteen days. All three, incidentally, are turbo-electric driven, that is, propelled by electricity generated by a

steam turbine, a means brought to perfection by the American Navy which first tried it in the collier *Jupiter*, now the aircraft carrier *Langley*. Other proposed additions to the American merchant fleet made feasible by the act, excluding two immense liners being prepared for the transatlantic race (*vide infra*), aggregate over 300,000 tons.

LAST SUMMER, when the North German Lloyd's *Bremen* on her maiden voyage averaged 27.83 knots and passed Ambrose Channel Lightship 4 days, 17 hours, and 42 minutes after she left the breakwater at Cherbourg, she wrested the blue ribbon of the Atlantic from Cunard's *Mauretania*, a supremacy of which the latter had boasted for two decades. Later the *Mauretania* almost regained the record and, still later, the *Bremen* made an eastbound passage in 4 days, 14 hours.

The *Bremen's* triumph signalized the comeback of Germany's merchant marine which fell from 5,238,937 tons in July, 1914, to less than 500,000 in July, 1919,



Wide World

LT. APOLLO SOUCEK PREPARING TO TEST A NEW OUTFIT FOR ALTITUDE FLYING, PREPARATORY TO HIS ATTEMPT TO RECAPTURE FROM GERMANY THE ALTITUDE RECORD



but by July, 1929, had grown again to over 4,000,000. It also bestirred public interest in the race for transatlantic supremacy in speed and size in which five nations are entered. The stakes are nearly \$200,000,000; the goal a four-day service with, for advertising purposes largely, steamers 1,000 feet and longer.

The United States Lines, Inc., which operates the *Leviathan* is making plans for two 60,000-ton liners to be 1,000 feet in length and capable of 27½ knots; the White Star Line sometime ago laid down the keel for the *Oceanic* at Belfast, Ireland, and is said to have materially altered her design and increased her length to 1,080 feet upon the appearance of the *Bremen*; the *Cie. General Transatlantique* has announced that it is building at St. Nazaire a super-liner, 3,500 tons heavier and 2½ knots faster than the *Bremen*; Cunard is reported to contemplate two 60,000-tonners capable of 28½ knots with direct drives like the *Mauretania* and *Aquitania*; two proposed Italian sister ships, the *Dante* and *Conte Azurro*, although not to be in the 1,000-foot class, are to be capable of 27 knots and thus cut the running time of the New York-Naples service from nine days to a week. The *Europa*, sister of the *Bremen* and rebuilt after an incendiary fire, is expected to make her maiden westbound crossing this month.

The present challenge for supremacy started by the *Bremen* recalls the struggle at the turn of the century when the North German Lloyd launched successively the *Kronprinz Wilhelm* of 1901, the *Kaiser Wilhelm II* of 1902, and the *Kronprinzessin Cecilie* of 1906, the latter the "gold ship" of 1914. Before the *Cecilie* could be tried at her best the British entered the *Lusitania* and the *Mauretania*, affectionately the "Big Lucy" and "Big Mary" in shipping circles. The latter lowered the speed record and was "Queen of the Atlantic" for over twenty years, though the Hamburg American Line answered the Cunarders, beginning in 1912, with the three biggest steamers in the world; then called the *Imperator*, *Vaterland*, and *Bismarck*, but now renamed respectively the *Berengaria* (Cunard), *Leviathan* (U. S. Lines), and *Majestic* (White Star Line).

The *Bremen*, though longer than the *Berengaria*, *Leviathan* or *Majestic* is surpassed by them in registered tonnage. The *Bremen*, however, has the highest rated horsepower of any passenger vessel afloat. In this respect she bows only to three warships: the airplane carriers, U.S.S. *Saratoga* and U.S.S. *Lexington* (180,000 h.p.) and H.M.S. *Hood* (144,000 h.p.). The *Bremen's* oil burning turbines are rated at 132,000 horsepower and she operates at a boiler pressure of 375 pounds per square inch. In appearance, she does not resemble other liners; her bulbous bow (hitherto used on warships but not on liners), her stubby, elliptical funnels, her obvious design to cut down sea and wind resistance, mark her as unique. She is the first large ship to be welded instead of riveted.

Speed and size capture public fancy and produce capacity business at the peak of the tourist season, but in the lean months the inherent expensiveness of superliners is unmatched by super-income. Roughly speaking fuel consumption varies as the cube of the speed and, though even 33 knots is quite possible (both the *Lexington* and *Saratoga* have averaged nearly 35) it is questionable whether operation at such high speeds, with the

attendant excessive wear and tear on the machinery, is commercially feasible. Docking facilities are already cramped at New York and 1,000-foot ships will be a problem there and elsewhere. Their operation through the Panama Canal is impossible and their draft would call for dredging of channels in most seaports.

While the thought of size inspires a feeling of safety, high speeds produce vibration often discomforting to passengers. It is also true that the buffeting of huge liners on the North Atlantic this winter points out that size is no special protection from a storm, in fact it is frequently the reverse when a long ship "rides" two waves. The *Majestic* suffered severe damages in a storm last year, and other big liners had difficulties in the great Atlantic storm last December.

### Needed — More Scientists

DR. MAYER, in his article on page 233, demonstrates that America's fertility in science is comparable to that of other nations, but that fact does not diminish the cogency of Professor R. A. Seligman's recent lament on the shortage of scientific brains, not only in America, but in the entire world.

The remarks of this member of Columbia's faculty were made at a dinner marking the completion of the first volume of the Encyclopedia of the Social Sciences, of which he is Editor. This huge enterprise, comparable in the minds of many to the great French encyclopedia of the Eighteenth Century, is being sponsored by ten learned societies.

"We no longer," said he, "have the conditions which created the great scientists of old. We cannot look forward to an Adam Smith in the social sciences, or to a Pasteur in the natural sciences. The head of a great scientific institute asserted the other day that he did not have a single first-class mind among his younger associates; and in the social sciences it has long become a byword that the most brilliant intellects are drafted off into business and the professions.

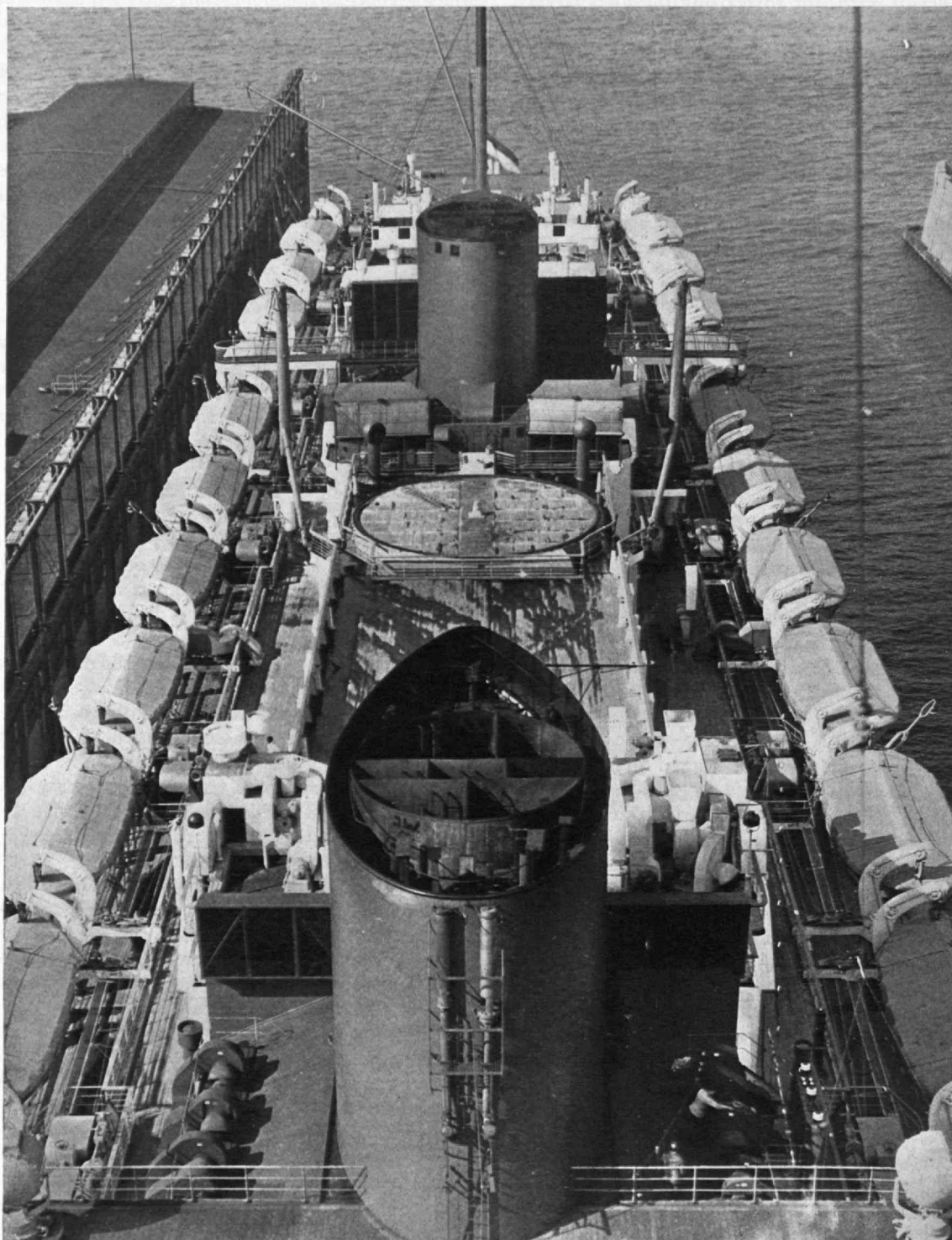
"This is an ominous situation. It explains the fact why we have such remarkable captains of industry at present, but it is full of menace for the future, for industry itself depends in the last instance upon the discoveries of the great scientists; and if we have no great scientists we shall have in the long run no great industries.

"In former times we had a fairly satisfactory situation, for what the thinker needs above all is serenity of mind and the chance for protracted and undisturbed thought. At the present time these conditions have disappeared and especially in this country they are absent.

"For in this country we have to fight not only against the consequences of the price revolution which has been taking place all over the world, and which only tends to accentuate the disparity between the remuneration of those who amuse us and those who instruct us, but we have in addition the unstable condition of American life with the perpetual worries, the continual uncertainties and the constant extremes."

Coming from a sociologist, Professor Seligman's remarks take on a unique value. The usual cry today from the ranks of the humanists is that science occupies a too dominant position in modern life.

## *Engineering Closeups*



*Ewing Galloway*

### **FROM THE CROWS' NEST**

*Looking down the S. S. Bremen, the new Queen of the Atlantic, and the highest-powered passenger vessel afloat. The interior construction of the funnels is revealed and the arrangement of the life boats shown. See page 248*





### *Beauty In Engineering*

BRIDGES: A STUDY IN THEIR ART, SCIENCE AND EVOLUTION, by Charles S. Whitney. \$20.00. 363 pages. New York: *William Edwin Rudge*.

IT would be difficult to find a more inspiring challenge to both architects and engineers than is contained in the following quotation from the foreword of Mr. Whitney's book on bridges: "The purpose of this book is to give a method for the application of fundamental architectural principles to the design and criticism of bridges; to point out that the modern bridge should not, as is sometimes stated, be exempted from the same rules of art that apply to other architectural works; and to make a plea for thorough architectural training of the Civil Engineer that his tremendously important works may be as inspiringly beautiful as they are economically sound."

He speaks in successive paragraphs of the historical background of the modern bridge, of the varied collection of photographs that he has assembled as an inspiration for future design, but the paragraph quoted above is a clarion call to the modern designer, whether engineer or architect, to learn from the past that a bridge not only may, but must be beautiful as well as useful.

Throughout his text and illustrations, Mr. Whitney shows a nice appreciation of the extent to which the bridge typified the local resources, the prevalent culture, or the changing climates of countries and civilizations of which it was the product. He says that "bridges typify progress more than any other structure built by man." He might well have added, what in my opinion is equally true, that no man-made structure has more individuality, more positive personality than a bridge. This personality is composite primarily of the particular conditions that called it forth, plus the characteristics of its builder and the material of which it is built.

The bridge as a problem furnishes a perfect meeting ground for architect and engineer. It is incomplete and unsuccessful unless it calls forth the best of each, and no better subject for a joint effort to glorify the unity of beauty and utility could be found.

The program that confronted the old bridge builders presented appalling difficulties. Take such a bridge as that of St. Bénézet at Avignon where two great streams separated by an island are to be spanned — calling for twenty-three masonry arches across a river of formidable flood possibilities, to be so contrived at the same time as to be readily defended, and yet this was accomplished when France had scarcely emerged from the Dark Ages. It was achieved then, and that so little of it (only four arches) remain for us to see today, is due more to the destruction of man in blowing up some of the arches that were never properly rebuilt, than to the forces of nature.

The material presented is of value and interest to the reader whether student, layman, or practising engineer or architect. The text with its careful analyses of the

individual designs, its historical references and the bibliography unite with the illustrations to make a volume that should meet a wide demand and stimulate a better understanding of the bridge both past and present.

He has, I am sure, had a happy time wandering through the pages of the famous works on bridges by DeDartein and by Séjourné, also in choosing this varied assortment of photographs, but he has furthermore pointed out a need in our modern world which I am confident both architect and engineer will be eager to meet, and for which I feel a personal debt of gratitude.

WILLIAM EMERSON

### *Milk*

THE MOST NEARLY PERFECT FOOD, by Samuel J. Crumbine, and James A. Tobey, '16. \$2.50. xi + 293 pages. Baltimore: *Williams and Wilkins*.

THERE is something in the modest yet intriguing title of this book that at once creates a curiosity as to its contents. Everyone familiar with modern nutritional literature knows at once that it is a book which, rightfully, will extol the food value of milk. But is it like the many other books on milk that have made so large a contribution to the library of the food technologist and the nutritionist? To write a new and authoritative book on this subject in a manner that will command the interest of the popular reader as well as the specialist demands unusual skill in the art of presentation, yet this is what has been accomplished with great success.

In the modest preface it is at the outset recognized that books on nutrition and on dairy science are numerous and filled with valuable information and the authors state that since there was no modern text devoted entirely to a popular presentation of all the interesting phases of the one nearly perfect food, they have felt justified in preparing this volume on the history, production, practical use, sanitation and dietary functions of milk and its products. The reader will agree with them in this respect.

In ten chapters there are here presented in most readable form the results of a vast amount of investigation regarding milk, its production and its importance to mankind. Reversing the usual formula of first emphasizing the significance of milk in infant feeding, they have devoted the first chapter to the broader and more general significance of milk to the race, under the appealing caption — *One Way to Defer Old Age* — and in this semi-historical, semi-philosophical treatment one of the principal aims of the book has been epitomized. Some of the following chapters expand this thesis, adding fact to fact and argument to argument, until there has been presented a comprehensive yet compact statement of our present knowledge of the relation of milk to human nutrition. This has been done with such admirable balance, with such clarity of statement and in so (Continued on page 260)



## Reunion Plans

AS The Review goes to press, information comes by long distance telephone from Thomas C. Desmond, '09, that arrangements have been completed for the scientific demonstration which is to take place at the Reunion Banquet on the evening of June 7. It is to be in charge of John Bellamy Taylor, '97, consulting engineer of the General Electric Company, and is to be entitled "Audible Light." It will illustrate new developments in the field of "narrowcasting" as distinguished from broadcasting. More complete information will be given in the next issue of the *Reunion Bulletin*.

Swampscott, Mass., the 1925 summer home of former-President Coolidge, has been chosen as the scene of the Outing on June 7. Swampscott is beautifully located on the North Shore of Massachusetts Bay, and the New Ocean House, the center of the Outing, has admirable facilities for entertaining the 2,000 or more people who will be present during the Reunion. Harry J. Carlson, '92, Chairman of the Outing Committee, announces that the entire grounds of the New Ocean House, including a golf course, putting green, tennis courts, bath houses, and baseball diamond, will be at the disposal of Technology. Arrangements are also being made with nearby golf clubs so that ample facilities may be had for playing golf.

Transportation by automobile and bus from Boston and Cambridge will be provided by the Reunion Committee both to and from Swampscott. The schedule provides for arrival between 9:30 and 10:00 o'clock on Saturday morning, and departure about 4:00 o'clock, leaving ample time for all the guests to prepare for the big banquet Saturday evening. A buffet luncheon will be served in the convention hall of the hotel.

Class Secretaries are now making plans for the Class Dinners which are to be held on the evening of June 6. Announcements of time and place of these dinners will be included in one of the forthcoming *Reunion Bulletins* which are being sent to all Technology men by the Reunion Publicity Committee. For the benefit of all Alumni who are coming from New York or by way of New York, arrangements have been made for transportation on the Eastern Steamship *New York* which plies between Boston and New York. The entire accommodations of the boat have been reserved and plans made for a special dinner and entertainment on board.

Reservations should be made with Robert J. Marlow, '17, Room 3211, 120 Broadway, New York City. Mr. Marlow can be reached by telephone at Rector 6171. The fare from New York to Boston is \$6.50, and stateroom tickets range from \$2.50 to \$10.00. Reservations may also be made for Sunday evening for the return trip to New York. The sailing time of the boat both from Boston and New York is 5:00 P. M.

Reunion headquarters have been established in Room 3-207, M. I. T., and all inquiries should be addressed to that place, or else to one of the Reunion Vice-Chairmen

of whom there are thirty-three distributed throughout the country. Their names and addresses are included in the *Reunion Bulletin* which has been sent to the entire Institute list of former students.

Transportation information may be obtained from Emmons J. Whitcomb, '11, at the office of Raymond and Whitcomb Company, 126 Newbury Street, Boston, Mass. Information about hotels may be obtained from Ralph T. Jope, '28, Chairman of the Committee on Hotels and Housing, who may be reached at the Reunion Headquarters at the Institute.

The Reunion Committee has been able to secure the largest Guaranty Fund ever raised for a Technology Reunion, and it is still growing. With so excellent a financial backlog, the Committee is able to assure all those who expect to attend the Reunion that the prices for the various events will be extremely low.

Since the *Reunion Bulletin* was printed, Merton L. Emerson, '04, and Donald G. Robbins, '07, have been appointed to the Reunion Executive Committee.

## 143d Alumni Council Meeting

ON January 27 the Alumni Council held its first 1930 meeting by a thorough-going discussion of the Reunion plans outlined above. After having the usual dinner served in Walker Memorial, the Council listened patiently to a report of the excellent financial condition of the Association, and then heard with approbation Samuel C. Prescott's ('94) description of the work of the Student Faculty Committee which has been studying the Institute's curriculum and methods of instruction. Organized two and a half years ago, the Committee has made many helpful suggestions toward improving the Institute courses and creating a better *esprit de corps* among the Faculty and the students.

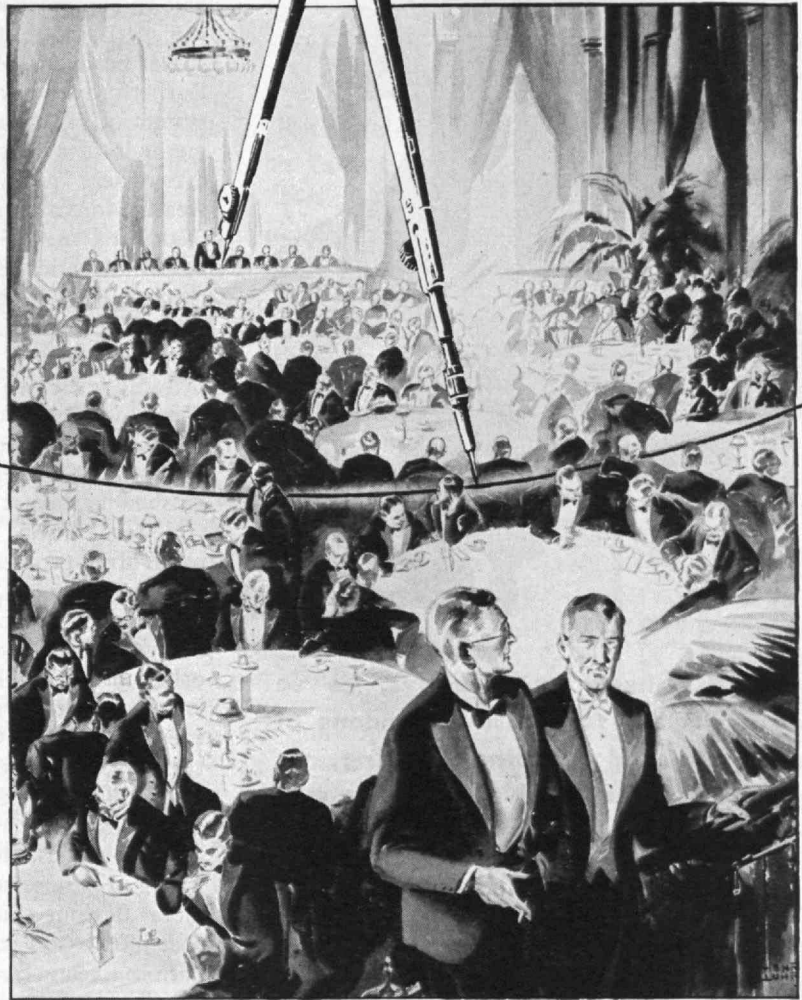
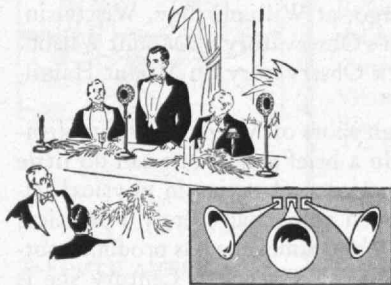
The remainder of the evening was devoted to a discussion of the Reunion, under the leadership of Thomas C. Desmond, '09, General Chairman of the Reunion. The selection of the New Ocean House at Swampscott for the scene of the Outing was the result of the Council's discussion of this item on the Reunion program. It was pointed out that Swampscott was easily accessible and provided opportunity for outdoor sports and adequate room for shelter and indoor games in case of rain.

Harold B. Richmond, '14, Vice-President of the Alumni Association, presided over the meeting, the President of the Association, Paul W. Litchfield, '96, being unable to attend. He reported for the Committee to Nominate Representatives of Local Associations on the Alumni Council, the election of Charles R. Haynes, '04, to succeed Mitchell B. Kaufman, '15, as Council Representative of the Technology Club of Norway (Oslo), and the election of Elbert G. Allen, '00, to replace Edward L. Moreland, '07, as Representative of the Technology Club of the South (New Orleans).

Fifty-three members and guests attended the meeting.

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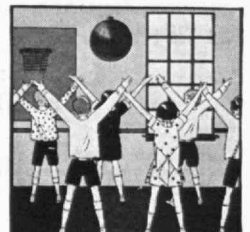
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## CAN AMERICANS BE SCIENTISTS?

*(Continued from page 236)*

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In astronomy the United States now stands preëminent, both in the number of her recognized contributors and in the nature of her equipment. Her contributions during the first quarter of the Twentieth Century far outrank those of any other nation. Rutherford, Pickering, Abbe, Newcomb, and Hill are names marking definite mileposts in the science of astronomy. Rutherford (1816-1892) was first to construct a photographic refractor and to apply the methods of photography to the determination of stellar positions. Pickering (1846-1919) elaborated upon Rutherford's work and discovered the first spectroscopic system of binary stars. Photographic and spectroscopic methods of stellar research are of the first importance everywhere today. Abbe (1838-1916) perfected the weather forecasting service for the United States Government, and his methods were later copied all over the world. America is now foremost in this department, through the subsequent work of the Smithsonian Institution. The establishment of an observing station on Mount Brukkaros in South Africa, which will be linked by radio with two other American stations, one in South America and the other in California, will provide still more accurate and comprehensive weather statistics. Newcomb (1835-1909) and Hill (1838-1914), distinguished mathematical astronomers, both received worldwide recognition. They applied the Newtonian formulæ to involved problems of celestial mechanics, especially to the movements of the moon and the outer planets. Hill ranks with Laplace in devising helpful equations for the study of three bodies acting simultaneously on one another in space. The three greatest observatories in the world are in the United States: the Yerkes Observatory of the University of Chicago, at Williams Bay, Wisconsin; the Carnegie Institution's Observatory on Mount Wilson, California; and the Lick Observatory on Mount Hamilton, California.

These are just the high spots of America's accomplishments in pure science. In a brief article one can do little more. But one thing is clear — America in physical science has always been much more than merely a practical nation. Even in early colonial times she has produced outstanding contributors. In the Twentieth Century she is in the vanguard, and if the newer sciences of geology, biology, and psychology are taken into account she is already in the lead. She has always had the native ability and the intellectual capacity, and now, with the financial resources and the ability to secure the needed scientific equipment, we may look to a still more brilliant second quarter of attainment in the Twentieth Century.

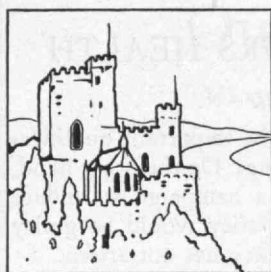
America is eternally indebted for her rapid rise to wealth and power to the labors of such men as Galileo, Newton, Lavoisier, Franklin, Rumford, and Gibbs. She must continue to depend upon pure science for her material welfare. The scientist has been and is doing his full share. Leaders of industry and public affairs alike realize this; manufacturers and capitalists of America today, whose immense fortunes are built upon the findings of the man in the laboratory, are awake to their need of the services of men of science, and the *(Continued on page 256)*

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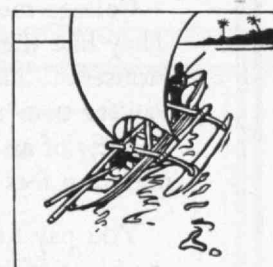
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## CAN AMERICANS BE SCIENTISTS?

*(Concluded from page 254)*

laboratory with its personnel has begun to appear as an integral part of the plans and the programs of an increasing number of vast business corporations. Laboratories in universities and other centers of research are commanding a recognition and giving an opportunity that at once indicates the necessity and insures the acceptance of research in all fields of science. Whatever can be done to further education in the meaning of science and in the realization of the need for proper support of research and its workers will be to the immeasurable advantage of humanity and of science alike.

## BUSINESS DISCOVERS HEALTH

*(Continued from page 238)*

fact, provided they retain all of the important qualifications and pervert none of the findings. On the other hand, if the coffee interests launched a campaign to induce young children to imbibe coffee, they would be guilty of a reprehensible act. That exigency has not arisen.

The limited amount of chicanery which unfortunately exists alongside of the ethical endeavors by reputable commercial agencies having health messages is being drastically dealt with by industry itself. For sixteen years the National Better Business Bureau (New York), has been carrying on a zealous campaign for the purification of advertising and the extermination of quackery and charlatanism. This "agency of self-discipline" for industry has issued valuable bulletins on obesity remedies, on mail order spectacles and eye courses, and on cures for drug, liquor and tobacco habit, and has recently completed studies on hair dyes, gynecological remedies, piles remedies, weak men cures, and asthma cures, all subjects in which the gullible are prone to succumb to the wiles of the quack. Industry also co-operates fervidly with the American Medical Association in its laudable endeavors to assure truth and reliability in the literature of medicinal and therapeutic preparations. Better Business is likewise closely in touch with the federal bureaus concerned with such matters.

So long as industry maintains the ideal of public service, the consumer can always put his faith in the health educational material of the many reputable concerns legitimately in this field. The activities of this vast and powerful army of commercial forces must be mobilized so as to produce coördinated results of benefit to organized public health. A commercial health council, with a central headquarters, analogous to that of the National Health Council, the clearing house for the leading national voluntary health agencies of the country, would be a forward step.

Organized medicine and public health should utilize these industrial agencies to the utmost extent. Public health needs business as an ally and will invariably derive advantages from the relationship. There is absolutely no danger of commercial control of medicine or of public health. A leading health official resigned from the American Public Health Association several years ago because in his opinion it was dominated by a certain powerful life insurance company. Various physicians have disgorged themselves *(Concluded on page 258)*

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## BUSINESS DISCOVERS HEALTH

*(Concluded from page 256)*

of articles from time to time, usually with some such misguided title as "The Menace to Medicine," in which they have deplored the fancied regulation of medicine by commercial lay groups. As a matter of fact, it is the reverse which is true. Medicine and public health, when liberal, tolerant, and reasonable, can make skillful use of these business agencies and can divert their undeniable potentialities to their own legitimate ends.

"If the medical profession wants business concerns to come to it for the advice which it should give, medicine must be willing to coöperate effectively with business," wrote a former president of the American Medical Association in a recent letter to the *Journal* of that association. "Physicians must take a constructive course in such situations," he continued, "or cease to criticize or oppose. We are constantly fighting dishonesty in business. To be consistent and fair we must support honest business." This physician, as a leading dermatologist, had assisted a well-known soap manufacturer to collect expert opinions, based on examinations, to the effect that a first class toilet soap may benefit the skin. In an advertisement he certified to the authenticity of the statements, and for this he was criticized by some of the more conservative members of the profession. His letter outlined his creed on such matters and is notable for its broad-minded viewpoint.

Business is best as an ally, for business is really at the foundation of all health progress. The financial support of all official health agencies is secured from taxes levied on business, or made possible by commerce. The few who scoff at scientific workers attached to industry are invariably sneering at the system which produces their own salaries, or makes possible their incomes. The great foundations which have done and are performing much valuable and constructive public health work, all owe their existence to the vision of industrial leaders. The Rockefeller, Russell Sage, Milbank, and Commonwealth Foundation funds emanated from business, and not from millions made from professional careers. A scientist can have just as honorable a connection with the original business as with an institution whose income may come from dividends on the capital stock of that same business.

Modern industry has, then, much to contribute to the science of public health, and sanitary and medical science have much to contribute to business. Real progress can and will be achieved by a joining of forces in a coöperative spirit. Adjustments may have to be made in many instances, but each side has so much to gain by the alliance that each can afford to be liberal in its attitudes. After all, the goal of all of us is the prosperity and happiness of the nation and that can be achieved only through the advancement of national vitality and health.

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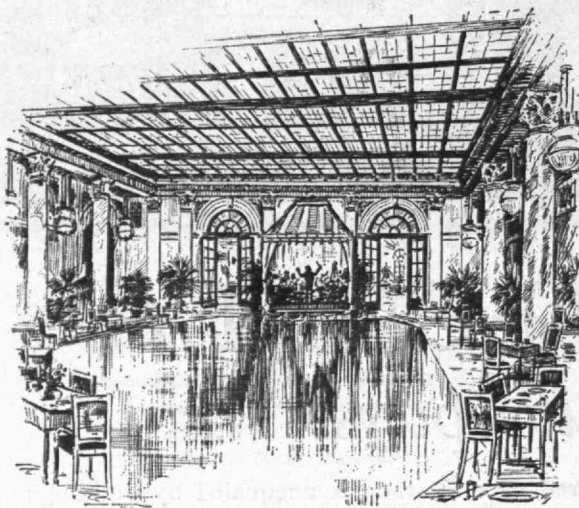
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## BOOKS

(Continued from page 251)

interesting a way that the reader becomes absorbed at once, subconsciously recognizing what may be called the romance of the subject, yet always conscious of the soundness of the science.

But history and literature, as well as science, mark this book. The third chapter, dealing with the subject, *Milk Through the Ages*, gives an historical account of the place of milk in the foods and civilizations of earlier periods in man's history, and there are presented here statements which clearly indicate the delving into ancient records and the perusal of the literatures of ages long past. It is clearly shown that from the dawn of history milk has been highly regarded and has had a place in the chronicles of man's affairs. More than two pages of Biblical references are given, and there are many others which make this chapter one of great historic and literary interest.

It is doubtful if any other book on the subject has ever presented so much authoritative material in so brief a space and so interesting a way. One minor error in dates was noted, as it was in 1890 and not in 1892 that the first survey of a city milk supply was made by Professor Sedgwick in Boston, although probably the results were not broadcast through scientific publication until the latter year. The authors deserve the congratulations, thanks, and the praise of the reading public.

SAMUEL C. PRESCOTT, '94

## Every Man His Own Weather Man

THE STORY OF THE WEATHER, by Eugene Van Cleef.  
\$2.50. xii+274 pages. New York: *The Century Company*.

THE task which the author set himself in writing "The Story of the Weather" would be fully justified if he accomplished nothing more than to give some semblance of interest and authority to the trite forecasts and conjectures in which weather is employed as a salutatory jimmy for breaking into conversation. If the man who now greets one with "It looks like rain" should one day make the astonishing prophecy that the direction of the wind, the temperature and the cloud formation indicated sleet by noon, there would be some excuse for his existence.

Professor Van Cleef, however, who is a member of the Department of Geology at the Ohio State University, has a more serious purpose. His interesting and always lucid discussion of climate, winds, cloud formations, storms, seasons, and methods of forecasting weather conditions brings a clear conception of the part that weather plays in life, whether it be a question of choosing a fine day for a picnic, or in business and industry, where the difference between "fair and warmer" and "cloudy with rain" may spell success or disaster.

The author suggests that manufacturers give more study to the climatic conditions in foreign countries to which their products are shipped.

JOHN J. ROWLANDS

(Concluded on page 264)



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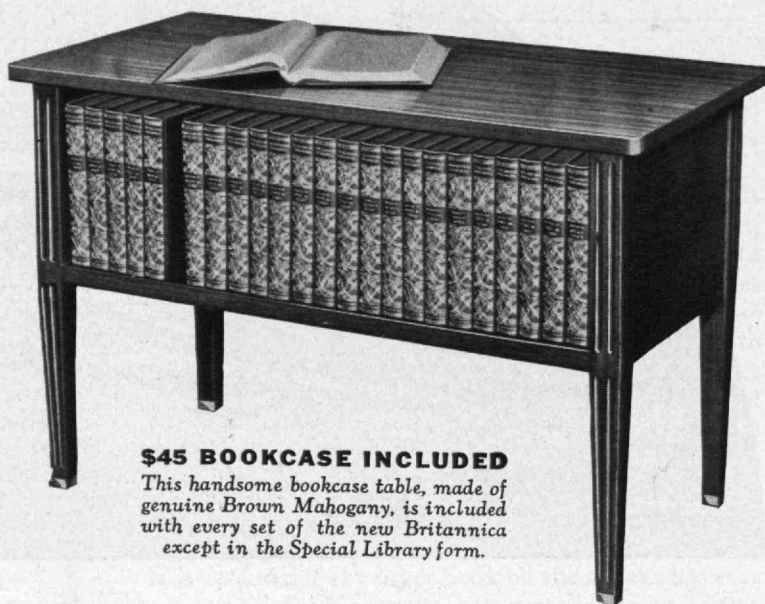


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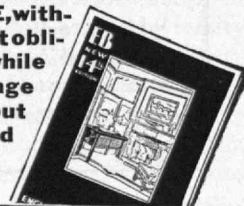
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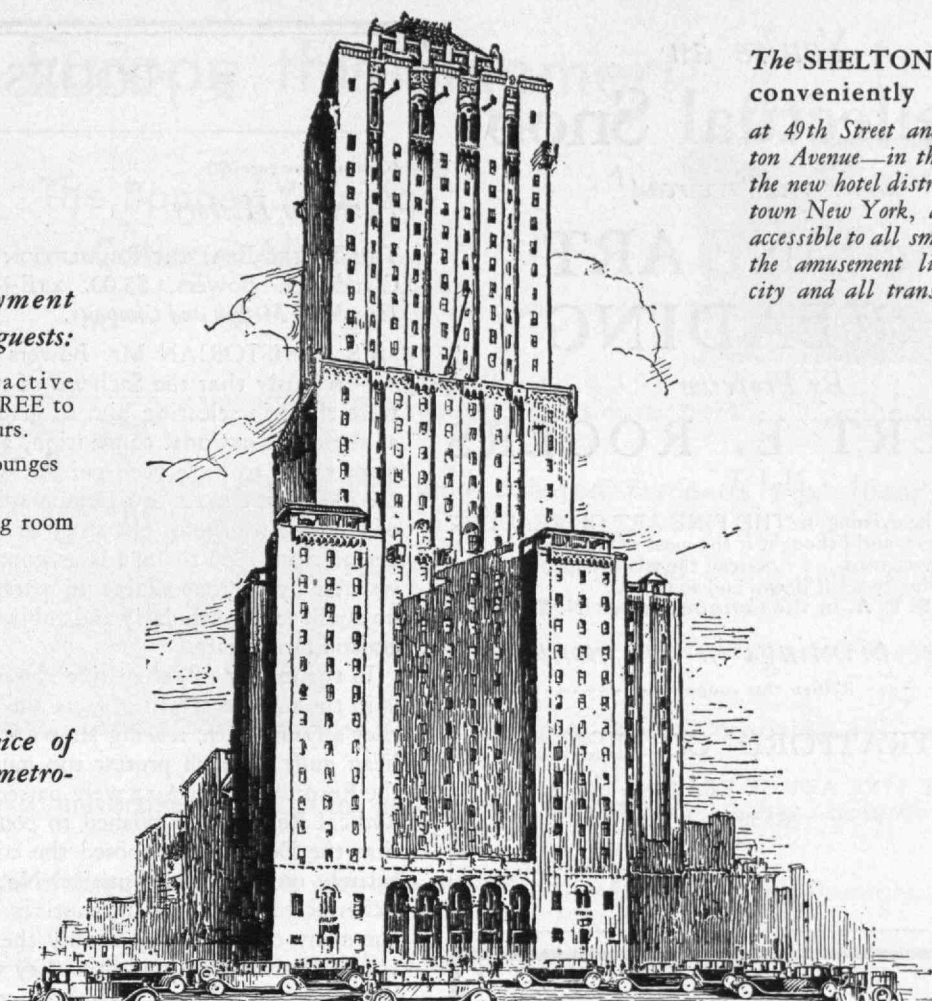
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## BOOKS

(Continued from page 260)

### Partisan History

THE TRAGIC ERA, THE REVOLUTION AFTER LINCOLN, by Claude G. Bowers. \$5.00. xxii+566 pages. Boston: Houghton, Mifflin and Company.

AS A HISTORIAN Mr. Bowers proves quite unconsciously that the Sachems of the Democratic party were right in selecting him to give the keynote speech at their last national convention, as his historical judgment seems to have been guided by a deep devotion to the idea that the act of a Democrat is righteous and that of a Republican foul. His story of the violently partisan period from 1865 to 1876 is as good history as could be written by anyone active in party politics, and will no doubt seem a scholarly and unbiased work to Southerners and Democrats.

In the matter of exhaustive research it is scholarly; it is in the interpretation of facts and motives that the author's Democratic rearing shows itself. Against Republican guilt he doth protest too much. He assumes that the Reconstruction Acts were passed wholly because the Radical Republicans wished to continue in power, and that the Democrats opposed the congressional program entirely out of love of justice. No doubt many Republicans acted upon just the motives he imputes to them, but many others, and probably the rank and file of the voters of the party, felt that they were making a great humanitarian reform; were protecting the negro from reënslavement.

If the name, "The Tragic Era," indicates an intention of covering American history during that period, the author has fallen down in his attempt, for he has turned his attention only upon those things that might be termed "tragic" — reconstruction, political rottenness, financial scandals — and has neglected the more optimistic and, in the large view, more important movements and events of the time. This was the period when the industry of America began to stride in seven league boots, making possible that cheapening of manufactured articles which has created the high living standards of to-day; the period when millions of farmers poured out onto the great wheat lands of the trans-Mississippi region to take advantage of the new homestead act; the period in which American cities grew as they had never grown before, and a new urban civilization appeared in the country.

But Mr. Bowers virtually ignores all this and fixes his gaze on the animosities of the placemen at Washington. People interested in the machinations of politicians, the detailed story of how each vote was won or lost, will find much material here, as will those who are interested in making the acquaintance of a large tribe of Senators and Congressmen, distinguished and undistinguished. In fact, there is so much of this detail that the book is too long, and the general reader, for whom it was written, will get bogged in details and minor names.

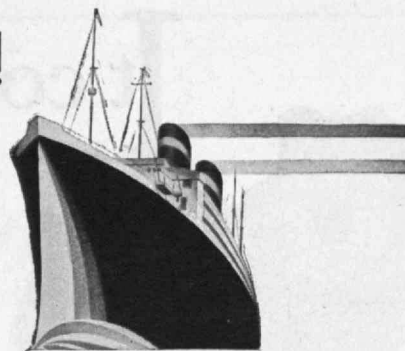
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## SUPPLEMENT

### NEWS FROM THE CLASSES AND CLUBS

---

1868

My letter to Baron and Baroness Dan will give you an idea of some of the interesting parts of my share in the World Engineering Congress:

"I find myself thinking every day and every hour of the perfectly glorious month that I spent with you two dear people from October 27 to November 22. After receiving your kind invitation to stay at your hospitable home, I was informed at the last minute in Boston, that I must have a passport. By writing and wiring from Boston to Washington and San Francisco, the passport was put in my hand as I stepped on board the *S. S. President Jackson*. Stopping to enjoy Honolulu two days and a night, we were well started on the home stretch of the Pacific for Yokohama when a kind friend stepped up to me and said, 'Did you get your passport visaed in San Francisco?' I replied, 'No, I did not know it had to be.' He then said, 'I will take care of that,' and he wirelessly to Honolulu, and they to Baron Dan in Tokio, who wirelessly to Honolulu, and then to my ship saying it would be all right. When I reached Yokohama, I was met by Baron Dan, and we had a very joyous meeting. He then took me to the officer's desk and a rubber stamp on my passport placed me right with the country of Japan.

"You two dear people provided me with all the comforts of home, including a bathroom with all the latest appliances for hot and cold water, together with plans for the three meals a day which were to be just what I am in the habit of having at home. You supplied me with two secretaries who were to look out for me that I should have all my wants supplied while in the City of Tokio, with an attractive lady interpreter who could make my conversation with Baroness Dan as easy and natural as possible.

"When I wanted to go shopping, my lady friend helped me to find and select my purchases and to gain the most moderate charges. In this way I purchased pretty summer dresses for some of my nieces and cousins, necklaces of beautiful rock crystal beads to be given to friends who had been helpful to me, and a beautiful folding screen for my friend at Jamaica

Plain. You also furnished me with a valet to help my dressing and undressing, and to see that I was provided with food when at your home and at evening banquets, and also to see that I was able to go up and down stairs safely.

"After the World Engineering Congress adjourned, you provided me with the above three helpers while making visits to the various places of historic interest and picturesque beauty in Japan, and you also furnished at each place an expert who could tell me about the objects of interest in each of the places. Supplied with these wonderful helpers, I visited Nikko, Kyoto, Osaka, Nara, and I had the pleasure of visiting Hakone with you. At this place we hoped to have seen the beautiful Fuji, but were unfortunate in being prevented by clouds and rain, but we did visit the hot springs and the lake and the very picturesque drives reaching these places.

"You furnished me with beautiful flowers in my room when at Tokio, with a beautiful trailing chrysanthemum growing in a flower pot in my stateroom on the steamer from Kobe to Moji, and on my return and at Miiki the engineers furnished me with a sedan chair so that I could visit all the places of interest in this place which so wonderfully illustrates your skill and ability in engineering.

"In addition to these beautiful attentions, the considerable group of engineers who were carrying on the large plants of coal mining, zinc smelting, and shipping added greatly to my entertainment and instruction during my brief stay at this wonderful place.

"Starting home from Yokohama, I found a beautiful bouquet of flowers in my stateroom and again received a cable and more flowers when passing through Honolulu, and so, throughout my whole period, I was speeded forward at every moment with beauty and kindness. I cannot close this letter without mentioning some of the beautiful presents that have come to me directly or indirectly through your kindness. I will mention a few of these individually: the pillow covers woven in silk with a white background and beautiful figures and designs in colors; the pillow cover with the barnyard fowls on it, all in silk, with the

dark background and the fowls done in needlework of a light color, a most exquisite picture; a pillow cover with a dark background and a pair of pheasants on it with all the brilliant colors of the Oriental pheasants, all done in needlework; a most brilliant picture; a large and beautiful table cover all in silk with a darker background and figures of grapes and grape leaves arranged in a most attractive way all over it (with a heavy silk fringe around the edge and presented with the compliments of the Miike Mine and the Miike Zinc Works); a number of little figures intended to be given to children, but really too beautifully made for me to spare them (These show girls playing different games, and boys doing the same.); a statuette or Hakata doll of Shoni Kagesuke, a brave general, who fought vigorously his country's battle against the Mongol invasion (The doll was made in duplicate, one of which was presented by the Mayor of the City of Fukuoka (Hakata) to H. I. H. Prince Kanin on his recent visit to that city, and the other was presented to me. This was given with the compliments of B. Kataoka, Manager, M. B. K. Miike.); a very beautiful picture of a stork standing in characteristic position in a swamp with the usual leaves and plants around him. This is mounted in the usual Japanese way for hanging on the wall and is rolled up, when put away, on an ivory roller. The picture is so beautiful and perfect that it suggests the old masters of a hundred years ago, more or less. These beautiful gifts are not only a constant joy to me, but I find they give wonderful pleasure to all my friends when they come to see me.

"The present of fresh milk from the very efficient and hygienic farm of Baron Mitsui was a most delightful comfort for me while crossing the Pacific from November 22 to December 6, fifteen days, and the milk at the end of the voyage was quite as fresh as on the day of my start.

"A very interesting moving picture was taken of me by Mr. H. Akai, Osaka, Japan, dealing with visits to Nara, Osaka, and Kobe, a copy of which has been furnished to me." — ROBERT H. RICHARDS, *Secretary*, 32 Eliot Street, Jamaica Plain, Mass.

## 1877

I am continuing my search for the missing members of the Class. Two of them came from St. John, New Brunswick, Canada: Edward F. C. Berton, who was at the Institute from 1873 to 1874; and Thomas Byers, who was there from 1874 to 1875. The keeper of vital records there was of no assistance, so a friend living in St. John placed an advertisement in the papers. The following reply was received from Florence M. Berton: "I think the enclosed clipping may refer to my late brother-in-law, Edward F. Berton. You will notice the name is spelled with an 'e.' In the year 1873 and 1874 he was attending some college in Boston, studying either architecture or engineering. It was while he was surveying that he caught cold, which was thought to be the forerunner of his death in 1875, when he was twenty-one."

A second reply was received from Florence M. Byers in regard to her husband: "... I beg to say I am the widow of Thomas Byers, son of John Byers, mining engineer, who moved from the United States of America to Canada, afterwards residing in St. John until his death. Thomas Byers moved to Moncton about 1875 or 1876. He was married in 1877 and passed away in 1881. I do not know if this is the same person you are inquiring for, but I do not know of any other Thomas Byers."

William Burton came from Grinnell, Iowa. A letter to the keeper of vital records was not answered, so, at a venture, a letter to the postmaster brought the following reply: "... It so happens that William Burton was my uncle, and, as suggested, lived here from about 1870 to 1875, and was graduated from Grinnell College in this city in 1875. His death occurred at Lynn Haven on March 25, 1912. ... Further information was sent in by William Burton's son in Omaha, Neb.: "... My father, William Burton, was born on July 9, 1844, and died while temporarily at Lynn Haven, Fla., on March 25, 1912. He was married to Mary Pamela Mathews at Crete, Neb., on February 2, 1881. ... He was a United States deputy mineral surveyor for many years at Kelsey, Calif. He left Kelsey about 1910 and moved to Crete, Neb., where he lived until a short time before his death. He had three children, Henry Alfred, born on March 23, 1882; myself, born February 21, 1887; and Paul Edward, born June 26, 1893, and died July 15, 1918, on military service in France. ..."

So we have added to our class records. The search has led me to Lisbon, Portugal, where I hope to learn of John B. Corred or John B. Corria. As I sail on January 19 on the *Adriatic* for the Mediterranean, I shall have to defer the search. BELVIN T. WILLISTON, *Secretary*, 3 Monmouth Street, Somerville, Mass.

## 1886

Colonel Edward F. Miller, Head of the Mechanical Engineering Department at Technology, recently reached the age for

retirement from active service in the Reserve Officers Corps in the Army and has been commissioned a Colonel in the Army Ordnance Auxiliary Force. Miller's commission as Colonel followed the secret and confidential service he performed in coöperation with Army officers during the World War. In addition to that work, he was in charge of instruction for engineer officers in the Merchant Marine under the direction of the U. S. Shipping Board. For several years past the Colonel has been Dean of Army students detailed for advanced study at the Institute. Colonel Miller's retirement was marked by a complimentary luncheon given by the Reserve Officers' Association of M. I. T., an association that includes those members of the staff who hold commissions either in the Army, the Navy, the Marine Corps, or the National Guard, in all some eighty-five officers.

After the luncheon President Bush introduced Colonel R. C. Eddy, Head of the Department of Military Science and Tactics at the Institute. Colonel Eddy presented the retiring Colonel with his new commission, after which he read letters from Major General C. C. Williams, Chief of Ordnance in the Army, and Major General Preston Brown, Commander of the First Corps, both highly commendatory of the distinguished service Colonel Miller has rendered the Army both during and since the War. — ARTHUR G. ROBBINS, *Secretary*, Room 1 — 270, M. I. T., Cambridge, Mass.

## 1888

William T. Keough has been appointed a member of the Boston Finance Commission by Governor Allen. The Boston *Herald* of January 22 stated: "Mr. Keough has not been active in politics for twenty years and more. In 1902 he was elected to the Boston School Committee and served through 1905. When the new board of five members was organized in 1907 with the late James J. Storrow as chairman, Mr. Keough helped organize a new business department and served with it until 1924. The new appointee is a consulting engineer by profession, a graduate of Technology where he received the degree of Bachelor of Science in the Department of Mechanical Engineering. During the last five years he has been associated with a subsidiary of the Bethlehem Steel Corporation as chief engineer of the Atlantic Works, East Boston. He is a member of the American Society of Mechanical Engineers, the Society of Naval Architects and Marine Engineers, the American Society of Naval Engineers, the Charitable Irish Society, and the Catholic Alumni Sodality, Vice-President of the Enterprise Coöperative Bank, and trustee and member of the board of investment of the Home Savings Bank."

The Class was represented at the Alumni Dinner on January 18 by Sawyer, Webster, Keough, Collins, Horn, Bridges, and Snow.

The father of Edwin S. Webster died on January 22. He was born in 1841 and was a veteran of the Civil War, having

enlisted in Company G, 44th Massachusetts Volunteers, which saw active service in the South. He was long the senior partner of Kidder, Peabody and Company. — WILLIAM G. SNOW, *Secretary*, 38 Chauncy Street, Boston, Mass.

## 1890

You birds all received the letter sent to you by your Secretary the last of December, advising you of our plans for our Fortieth Reunion at the Belmont Spring Country Club, Thursday, June 5, the day before the All-Technology Reunion. At the end of three weeks, only about one of you in three has condescended to return the card telling whether it was a case of "would," "would not," or "hoped to" be with us.

Your Secretary and Mrs. Gilmore left for the El Encanto Hotel at Santa Barbara, Calif., on January 20, to be gone until the middle of April. On his return soon after that, a notice will be sent to those of you who replied that you would come or hope to come. To those who made no reply it is doubtful if any further notice is sent. Now, when you get this issue of *The Review*, if you have not sent in the card or are not sure about it, kindly drop your Secretary another line.

We hope some of you listened over the radio last December when our classmate, Pierre du Pont, gave a talk on "The Business Man's View of Prohibition." Your Secretary fully agrees with him and trusts the rest of you do likewise.

John L. Batchelder's company, the Batchelder Brothers Coal Company, has merged now with the Whittemore Company and has formed the Batchelder-Whittemore Company of which John is chairman of the board. The company maintains coal yards in about ten places in and around Boston and serves about forty-eight communities. John's picture also appeared in the paper at the same time and he looked just about as he did back in our days at Technology.

The Providence Chamber of Commerce has retained Professor William Z. Ripley, outstanding economist, as expert advisor in the projected fight to establish trunk line connections with Providence. Ripley says, "What is good for Providence is good for New England." It is reported that the New York, New Haven and Hartford Railroad is at present opposed to it, but he holds that it would really be a benefit to the road and hopes to convince its directors. Ripley, who is at Harvard University, and who has been very closely in touch with railroad affairs, has a knowledge of railway affairs that is perhaps greater than any other man in the country. He severely criticizes the railway consolidation plan of the Interstate Commerce Commission for its failure to provide operating efficiency and even-handed competition. We are glad to report that Billy is feeling well again, and your Secretary hopes to have some golf with him next spring.

We regret to report the death of Mrs. Edythe B. Packard, wife of our classmate, George A. Packard. Mrs. Packard



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passed away December 16, at her home in Wakefield, Mass., after an illness of two months.

We also regret to report that Arthur R. Wilson, President of the Granite Rock Company of Watonsville, Calif., passed away October 19, 1929.

We have received a change of address from Charles H. Alden, who is now located at 6153 Arcade Building, Seattle, Wash. — Sam Storrow's address is now Apartment 604, The Trianon, 1750 North Serrano Avenue, Los Angeles, Calif. — Miss Elizabeth E. Bickford writes that she has been teaching for the past forty years at Pasadena, and is now retiring. She is living at 1154 Eighth Street, Hermosa Beach, Calif., where she has a beautiful garden and a view overlooking the ocean. Any time any of our classmates are passing through that section she will be delighted to see them. The elevation where her home is located is 12,000 feet above the sea and her garden of roses keeps her busy. She is planning to be with us at our Reunion next June.

Knight C. Richmond of Providence hopes to be with us for the Reunion. His work for the past years has taken him through the South, Mexico, and Canada, but he has had all the traveling that he desires. — Frank Atwood will probably be in California at the time of our Reunion. — Charlie Sherman is wearing a larger hat than usual as he has recently become a grandfather. He is planning to be with us at the Reunion. — As usual Darragh deLancey will not be with us, not because it is not his desire to, but at that time his youngest daughter is to graduate from Vassar and insists that Pa and Ma must be present. Possibly he can prevail upon her to let him off this time.

William H. Johnson of Haverhill, Mass., who was our first Class President in freshman year, hopes to be with us with his family and grandson. He is ready to tackle any of you at tennis. — Calvin W. Rice is on the National Committee for the United States for the Berlin meeting of the World Power Conference, and it is possible that he will have to sail from here just before our Reunion. — Rev. Willard H. Roots is feeling very happy for at Christmas his daughter, Frances Mary Roots, a freshman at Arnold College, New Haven, and his son, Willard H. Roots, a freshman at Hobart College, were home for the holidays. His son hopes later on to take an engineering course at Technology.

For the first time since our days at Technology, Johnny Glidden of DeKalb, Ill., hopes to be with us. It is about time he came back to Boston for a change. This remark also applies to some of the rest of you. — Frank A. McDonald and his wife of Pittsburgh have both been ill but they have recovered now and are hoping to be with us. — Cyrus C. Babb, who is at Granite Falls, N. C., reports that his son is a sophomore at Johns Hopkins Medical School, and his daughter is a student at Brenau College at Gainesville, Iowa. He will be unable to be with us, but if he were, he would be ready to captain the ball team as he did in 1910.

James Clark, Jr., reports that his son is at Technology and he plans to come on to see him as well as to attend our Reunion. Jim's first appearance in Boston since leaving Technology was five years ago and he has kicked himself ever since for not being with us. — Frank Hayes is now located at his new home at 614 Woodland Avenue, Duluth, Minn. He and Mrs. Hayes hope to be with us, but as yet they are undecided whether to come by motor or to take a chance on the train. Frank says, "Under Zebina Ripley's redistribution of the railroads, how is one to know whether he gets on the right train or not?"

We note that Willis R. Whitney, director of research at the General Electric Company, is among the distinguished men comprising the committee of awarding of \$10,000 to the greatest American achievement in science during the year. Among the other members are several well-known Technology men and Dr. Samuel W. Stratton, our President. — Willard C. Aldrich of Port Deposit, Md., has for the past thirty-four years been teaching manual training at the Tome Institute where he is at present. He doubts if it will be possible for him to attend the Reunion.

According to H. M. Goodwin, those '90 men attending the Alumni Dinner on January 18 were: Atwood, Batchelder, Burley, Goodwin, Roots, and Sherman.

— GEORGE L. GILMORE, *Secretary*, 57 Hancock Street, Lexington, Mass.

## 1894

Henry Warren recently gave a most interesting talk before the Faculty Club at Technology in which he described how he happened to invent the Telechron clock, and told of the difficulties which had to be met. These clocks have now become widely used, several million being in regular service in America and large numbers in other parts of the world. Before he could bring the clock to perfection as a timekeeper, it became necessary to invent another device by means of which the frequencies of the alternating current used could be controlled. Warren invented a piece of apparatus which was 500 times as accurate as any in use for the purpose, and through this device alternating current is now standardized all over the country. This apparatus has also made possible the linking together of different power systems over a large area into a vast unit such as may now be utilized when needed. Warren's clocks are in use in most parts of the civilized world, although there are few in England and France, where the standardization of frequencies is not so fully developed.

P. O. Clarke, who was associated with the Class during the junior and senior years, is an architect in Providence. His address is 219 Blackstone Boulevard.

Mrs. Walter B. Griffin, better known to '94 as Miss Mahoney of the Architectural Department, has recently been rediscovered in Australia at Castlecrag, Willoughby, New South Wales. Several years ago Mr. Griffin, who is also an

architect, won the competition for the best plan for the new Capital of the Commonwealth of Australia at Canberra. Some months (or it may be years) ago the Secretary saw an account of the development that is taking place there. It will be a unique city, planned especially as the administrative and social center of the government. When the Secretary takes his long-planned trip to Australia he will have great pleasure in renewing an old acquaintance made in undergraduate days.

N. T. Quevedo is another member of the Class who has been lost, from the Secretary's viewpoint for some time. We are glad to get news of him again. Quevedo is now located in Texas, his business being the Quevedo, Aldrich Engineering Company, 431 McKinley Avenue, San Antonio.

We have learned with deep regret of the death of Harry B. Harding of 355 St. Johns Place, Brooklyn, which occurred on August 26, 1929. Harding was associated with the Class in our earlier years but did not complete the course. He was for several years in business, but the Secretary has no knowledge of his activities or associations in recent years.

The busy life of C. D. Pollock, consulting engineer and frequent lecturer at Technology on pavements and highways, is well known to the Class. This item will make record of the fact that Mrs. Pollock is also engaged in public affairs. On January 21 she was elected Republican county leader of one of the districts of Brooklyn. Mrs. Pollock has long been active in political work among women. She was formerly vice-chairman of the women's campaign committee of the district and chairman of programs in the Flatbush Republican Club. She is also deeply interested in a number of other women's organizations of religious, literary, and musical character. — SAMUEL C. PRESCOTT, *Secretary*, Room 10-405, M. I. T., Cambridge, Mass.

## 1895

The Thirty-Fifth Reunion of the Class will be held this year, probably in the vicinity of Boston, and either before or after the All-Technology Reunion. To determine a definite date and place, a questionnaire has been mailed to every member of the Class by your officers. When these are all returned a definite program can be planned. We sincerely hope for a good attendance, as years are rolling by, and there are fewer left each year.

The New York contingent of the Class held a luncheon at the Railroad Club of New York at 30 Church Street, on January 16. Charles E. Birge, Arthur L. Canfield, Harry P. Coddington, Sidney K. Clapp, Benjamin C. Donham, John H. Gardiner, Edward H. Huxley, George Nichols, Franklin A. Park, William E. Swift, Thomas H. Wiggin, and Frederick A. Hannah attended. The luncheon was given in honor of Frederick Hannah who leaves in February for Russia, under contract with the Soviet Government. He will be called upon to modernize and



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restore to their highest efficiency the industrial plants in Russia, under the supervision of the Supreme Economic Council. Mrs. Hannah will accompany him. We wish him Godspeed and all success. In his absence, John D. J. Moore telegraphed his good wishes and said, "Hannah will show them what's whatski."

We regret to announce the death of Mrs. F. W. Taussig of our Class on January 7 last. Mrs. Taussig resided at 2 Scott Street, Cambridge, Mass.

The Secretary is in receipt of Volume I, Numbers 4 and 5 of *Chemical Facts and Fancies*, as edited by Samuel S. Sadtler. These copies have proved interesting reading. — LUTHER K. YODER, *Secretary*, Chandler Machine Company, Ayer, Mass.

## 1896

It is with much regret that the Secretaries are obliged to report that 1929 was a particularly hard year on the Class of '96. In addition to other deaths previously reported, recent news is of the deaths of Charlie Ingalls, Fred Forster, Kinsley Blodgett, and John Dove.

Ingalls died on August 4, 1921. On account of space limitations his obituary will not be published until the next issue.

Fred Forster died on September 3, 1929, having been seriously ill only a few days. He was born in New York on November 26, 1874, son of Henry Waldo and Constance Atherton Forster. His father was a prominent lawyer of the metropolis and his mother was from one of the old families in New England. Gaining a public school education in New York City up to the age of twelve, he then went to Boston with his family and continued his education, finally graduating with our Class in 1896. For the two years following his graduation he worked in some of the textile mills in New Bedford to acquire a practical knowledge of machinery and methods and then in 1898 he went south to join the Draper Company's south selling corps then being organized at Atlanta under J. D. Cloudman, and after Mr. Cloudman's death in 1917, Forster became southern representative and a director of the Draper Company.

He will be remembered by his classmates as a quiet, able fellow and he held to these same characteristics all through his life. His associates saw that he was a man of unusual ability and his devotion to his friends and associates was marked. His enthusiastic spirit and intelligent work added in no small degree to the success of his undertaking, all of which caused him to be held in high regard and esteem by his associates, and his energetic, courteous, and happy disposition won also the friendship and confidence of the leaders of the textile industry in the south.

Forster was married August 25, 1906, to Miss Ethel Fisher, daughter of a leading textile man then in the south and more recently in New England. Forster is survived by a widow and a brother, Henry A. Forster of New York City.

Blodgett's death occurred in Navesink, N. J., on December 17, 1929, where he had been a pastor of the All Saints Church

for some years past. Prior to that he had held a ministerial position in Worcester for many years. Details of Blodgett's life and work are not yet available but will appear in the next issue of The Review. He was apparently a man who was wrapped up in his work so that he was unable to maintain a close contact with his classmates.

Johnny Dove died on August 4, 1929. He suffered a paralytic stroke several years ago which confined him to his house, Butternut Brook Farm, Litchfield, Conn., but he was able to work a typewriter with one finger and the Secretary received messages from him. By those who attended the Saybrook Reunion in 1916 he will be remembered as one of the lively spirits of that occasion.

Turning now to the bright side of the picture, the rumor emanating from the Alumni Office to the effect that Skip Brackett had passed away proves to have been entirely unfounded, as Skip is now living on Garrison Road, Hingham Center, Mass., and a personal letter from him in January states that he hastens to refute such a wild rumor as seems to have reached the Secretary. He and his brother sold out their coal business in Newton some time ago and since then he has styled himself "Ex-Coal Baron" on a modest income, trying to hold on to what wealth he had and not lose it in the stock market. He spends his summers in Hingham, but for the past three years has been south at Miami. His daughter Orrienne has recently taken a position with a firm of public accountants in Boston. We certainly are glad to know that Skip is still with us and plans to continue with us for a long time to come.

Charlie Morris, as retired Rear Admiral, is located in Brookline, Mass., and the Secretary had the pleasure of having him to lunch on January 9, and also gave him a quick run around the Institute, which gave him a taste of what the Institute now is and made him desire to know more about it, so that we expect to see much more of him in the future than we did while he was active in Washington. — Jim Melliush has returned from South America and is now back to his old stamping ground in Chicago where his address is 6 North Michigan Avenue. — Con Young, with Mrs. Young, is basking in Florida sunshine during the winter as usual and is located at 135 Roots Trail, Palm Beach.

The men of '96 are apparently traveling in famous company as is indicated by an item in the Boston *Evening Transcript* to the effect that our classmate Joseph L. Sturtevant has brought an injunction against Henry Ford, charging that the stream feeding the mill dam at the old mill near Wayside Inn at Sudbury has been diverted in such a manner as to impair the beauty of Sturtevant's estate nearby. As a rejoinder Ford contends that the stream is being used for economic purposes in the operation of a grist mill and the power will also be extended to a textile mill in the future and that, therefore, it is perfectly legal to divert the water for economic purposes under

the provision of the State Mill Act. The outcome will be awaited with interest.

The week of January 13 was important on account of the presence of Paul Litchfield in Boston. On Wednesday of that week he was the guest speaker at the luncheon of the Boston Chamber of Commerce. The Secretary was privileged to be present at the head table and enjoyed very much Paul's exposition of the present and future of air travel by Zeppelin. He made the special point that these lighter-than-air machines should find a special field in combination of travel over land and water such for example, as trips from America to Europe. Hultman was also at the head table and H. R. Hedge, Mansfield, and Nevin, and possibly others were in the audience. Hultman is now temporarily riding two horses being actually still fire commissioner of Boston and also acting building commissioner. However, he is expected to be relieved of the fire work and be appointed building commissioner. Members of the Faculty report that at a Faculty Luncheon in the fall he gave a very fine speech on the fire situation in Boston and the problems of a fire commissioner. While we are on the subject of talks, mention should be made of the address by Eddie Mansfield before the student's Electrical Society of Technology on December 5, in which he outlined and discussed the cooperative course which the Edison Electric Illuminating Company has been giving with Technology.

Litchfield presided at the Annual Alumni Dinner on January 18 and apparently his presence had the effect of bringing out more classmates than usual including: Callan, Damon, Davis, Jim Driscoll, Hayward, both Hedges, Hultman, Knight, Locke, Morris, Rockwell, and Tucker. Charlie Morris especially seemed to enjoy the occasion and he and Gurney Callan chummed together the whole evening. No one had any special news to report except that Joe Driscoll was in the South.

Morse's boy, Louis S. Morse, Jr., is taking active part in Technology work, being this year the student general manager of the Technology Christian Association.

The Secretary started the new year right by mailing a check for \$50.00 to Dr. Allan Winter Rowe for support of Technology athletics. It is always a pleasure to do this job because Dr. Rowe comes back with such a delightful letter of thanks. — The annual contribution of the Class has also been made for the assistance of young Edwin Palmer. Rockwell reports that he examined young Edwin in the fall and found him to be getting along very nicely. The boy at that time had been attending the Brown and Nichols school for two months, having been given a scholarship for two years, and Rockwell is able to see personally the good progress that he is making. — CHARLES E. LOCKE, *Secretary*, Room 8-109, M. I. T., Cambridge, Mass. JOHN A. ROCKWELL, *Assistant Secretary*, 24 Garden Street, Cambridge, Mass.

## 1898

Charlie Winslow addressed two groups of Institute people on January 17. He gave the Aldred Lecture in the afternoon to the students of the upper classes. These lectures, which were endowed by Mr. Aldred, are designed to introduce to the student body the men in our country who have made great achievements, and it is considered a great honor to be asked to give one of these lectures. At noon Winslow was the luncheon guest of the Faculty Club which he addressed on the subject of his health work with the League of Nations. Needless to say, both of his talks were received with great enthusiasm.

The Alumni Dinner on January 18 was attended by seven men from our Class: Seth Humphrey, Shirley Philbrick, George Treat, Roy Peavey, Elliot Barker, Fred Dawes, and the Class Secretary. Seth Humphrey's latest book, "Loafing through Africa," has been out some months now and has proved an even greater success than its companion book, "Loafing through the Pacific." The book has an interest and charm rarely found in travel books. Seth has a way of finding out information concerning the places he visits which are exactly the things one wants to know, and his bits of philosophy in discussing the political and sociological situations invariably stimulate one to thinking. He is planning on a new trip next summer with the possible idea of finding material for another book.

Philbrick reports that he has withdrawn from his operations in Florida and is now located at Rye Beach, N. H. — ARTHUR A. BLANCHARD, *Secretary*, Room 4-160, M. I. T., Cambridge, Mass.

## 1899

Charles Davis Drew writes that he is still working on compressed air shield-driven tunnels under the East River for the new subway system for the City of New York. The tunnel from 53d Street, Manhattan, is finished, and the tunnel from Fulton Street, Manhattan, to Cranberry Street, Brooklyn, is practically finished except for the stations at Fulton and Nassau, Manhattan, and High Street, Brooklyn. In addition to the above, Drew has been busy all fall on plans and specifications for a third twin-tube tunnel, to cost \$14,000,000, under the East River and parallel to and just northeast of the Manhattan Bridge.

George Priest writes that 71 Fairfield Street, Brockton, Mass., is his legal address. He manages to sleep there occasionally and is still recognized by his family, but as one of the managers of the Brockton Gas Light Company he has plenty of opportunity for traveling, which is pleasant enough, but conflicts considerably with a man's family relations. He informs me that they have been carrying out in advance some of President Hoover's sunshine ideas in the way of rapid expansion of public utilities, as they have just completed a three-year program in which new capital of \$1,000,000 was expended on manufacturing plant and street mains.

From Albany, N. Y., comes the information that Burt Rickards was reelected President of the Technology Club of Albany, and they have had some very interesting meetings with talks on such technical matters as the new Albany water supply, modern methods of manufacturing coke and by-products, and so on. Rickard's son, Leighton, entered Technology last autumn, and the boy feels that he has made no mistake in his choice of a higher educational institute. He is a member of Delta Upsilon, and in addition has been appointed sergeant and chosen to take charge of instructing the bugle corps of the freshman battalion.

Norman Rood writes from Wilmington that he really hasn't done anything spectacular enough to be reported in The Review, but that he has nothing to complain of. That last in itself is a bit of news. He says that running the office and the farm takes up too much of his time to permit of much indulgence in fox hunting, but that he does get out about once a week. His farm has become quite a business institution with chickens and turkeys, ducks, homing pigeons, a bunch of dairy cattle, about thirty hogs, in addition to the horses, which include Prince Don, a three-year-old sired by Dona Conna a famous old race horse.

The Class of '99 was represented by a large and intelligent delegation at the Alumni Association Dinner, held in Walker on the evening of January 18. Charles Corbett was large and Etheredge Walker was intelligent. — W. MALCOLM CORSE, *Secretary*, 810 Eighteenth Street, Washington, D. C. ARTHUR H. BROWN, *Assistant Secretary*, 53 State Street, Boston, Mass.

## 1900

At the Annual Dinner ten of the Old Guard paid out good money to attend and the '00 table looked a little more popular than the surrounding ones. Dunbar, Allen, Fitch, Silverman, Smith, Bowditch, Russell, Patch, Ingalls, and the Secretary, all decided it was one of the best.

By this time you already know that June 4 and 5 are the dates decided upon for the Thirty Year Reunion of this Class and Oyster Harbor Club the place. If any reader has not received a letter, one will be sent immediately on application.

A corking letter came from Frank D. Chase. Among other things he says, "I have read with interest your Class Notes for November and am particularly interested in the Anniversary Reunion to be held next June. I missed the one five years ago, much to my regret, but am already planning to be present this year. I think it would be a very interesting thing to get out a class directory. The enclosure will give you some idea of my activities. We design all kinds of buildings and have a rather complete engineering and architectural organization. Our specialty, however, is industrial plants and we are doing work from coast to coast. Every now and then I talk with some old Technology man, which makes it pleasanter and easier to accomplish the things we set out to do for a client. Count on me for

any assistance in putting over a good Reunion." The enclosure was Number 4 of *The Archineer*, a very interesting publication of his firm.

The Cleveland *Plain Dealer* of January 13 had a column which would warm the heart of any of the Class that happened to read it. The story was about Jouett starting with the New York Central, describing his activities in bringing about the completion of the giant Grand Central Terminal in 1922 in New York, and since then whipping into shape the finest engineering corps that ever undertook a great construction job. The Cleveland Terminal is now ninety-five per cent complete and stands as an enduring monument to his engineering skill. We are indebted to Cady of '01 who sent in the clipping. — C. BURTON COTTING, *Secretary*, 111 Devonshire Street, Boston, Mass.

## 1901

The Annual Alumni Dinner has come and gone. This year the committee eschewed the garish and vulgar ostentation of a metropolitan hostelry or club and selected the Walker Memorial as the scene of the orgy. The Classes of '01 and '02 shared a table, a most fortunate circumstance as ultimately transpired. Bittering, the faithful, failed to appear, as his duties in Washington aiding the President in casting a chromatic glamour over the hopelessly dreary business situation could not be interrupted. I have seen Charlie transform a beautiful painting of a monk into an equally attractive one of a cocktail shaker merely by change of lighting. Mr. Hoover has real need of Charles, though I fear that the optical illusions are impermanent and cannot be hoped to last until the next election. But there were cheering notes. Matt Brush appeared and for a time graced our modest table though he wearied of the entertainment and fled even before your Secretary tottered from the banquet hall. There was however, one episode worthy of record. In fact, I am not sure that a medal should not be struck in commemoration. George Anthony Hall, after many weary years of absence from our midst, has resumed contact with the Class, and graced the occasion with his presence and supported by that staunch fellow, Fred Hunter, of the Class of '02, survived the combined onslaught of Matt and your Secretary. There were moments when he weakened and looked frantically for the nearest point of egress, but lulled to a sense of security by the sedative words of the gifted author of the Hunter Report, he stayed until the end. As George is the proud father of nine children, some of whom are still in the age of vociferous self-expression, I feel sure that the clamor and din of the occasion was not the ground of his unease. The Class of '17 cheered feebly once or twice, inaugurating the Saturnalia, while '28 at the other end of the banquet hall — how one rolls that under the tongue — emitted a few gentle expressions intended to register joy. For the rest, the occasion presented the hallowed calm of any other decent



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and well-ordered last rites, and the allusion was heightened by the funeral baked meats which physically justified their designation. *Rigor et frigus mortis* had not only set in but had persisted. The ice cream in floral and faunal forms offered pleasing encouragement to those who had not abjured sweets. The dining service should not be held responsible for this — any of it — but it was borne in upon the revellers yet once again that the Walker Memorial will lend itself but illy to such occasions until some method be devised for increasing the velocity between production and consumption. Speaking of which, we are to have a Five-Year Reunion this spring and the Alumni Dinner may have been staged as a trial performance to ascertain what to avoid.

Turning to brighter and warmer thoughts, our handsome friend and skillful golf player, Robert M. Derby, has been elected a Vice-President of the Niles-Bement-Pond Company and placed in charge of the foreign business. The list of subsidiaries for which the company acts as a distributor suggests a partial listing of the corporations of which Matt Brush is a director. I presume that Bob has taken this job in order to gratify his taste for foreign travel and I can well imagine that Paris will be found to be the most effective distributing point for the manifold products of the numerous companies. Bob went with the Niles-Bement-Pond Company on graduation. I hope that we may have the pleasure of hearing from him concerning his travels. He and Fred Clapp might establish a "Technology in Europe" though Fred must ever remain our true cosmopolite.

Ralph Stearns, who transferred his activities to New York some years ago, writes me that he is to be found at 32 Elmrock Road, Bronxville, for the rest of his life. Thus do extremes meet. Ralph is with Mead and Scheidenbehn, a corporation concerned with hydroelectric installations for large power companies. Ralph comments with reminiscent sadness on the fact that he has rounded out the half century, as indeed have many others of the Class, but, with a more cheerful note, adds that he still plays a mean game of tennis and will attend the Thirtieth Reunion filled with a high hope of a match with Gordon Thatcher. He will also bring his golf clubs.

Charlie Dennison, with the American Rubber Company in East Cambridge and living in the Early Colonial settlement of Wollaston, is a near neighbor, in spite of which our only contact with him for 10, these many years has been by correspondence. As Charlie is a sustaining member of the Class, I may not cavil at his communications, but to see him in the flesh will bring joy to the hearts of your Secretary and the faithful few. Charlie is pledged, however, for the Reunion, which, note, comes next year.

As many of you probably know, Lamot du Pont, in addition to his Presidency of du Pont de Nemours has taken over the chairmanship of the board of the General Motors Corporation. Apparently he felt that he must have some avocation

and there was a gap in his life that even pedigreed sheep could not fill. It is rumored that he will shortly replace Mr. Swope of the General Electric Company and that the Eastman Kodak Company has made tentative overtures to him, looking toward the future. To avoid giving Henry Ford and Thomas A. Edison any more free advertising I curtail this part of my news letter.

Louis Williams who, in the carefree years of youth, sprang from the industrial center of Duluth, one of the towns in which Matt Brush is also reported to have spent his childhood, has apparently moved to Detroit, for he writes to me from 3256 Carter Avenue in that industrial center. Aside from his well-remembered pleasant personality and capacity for friendship, there are several other points for which Louis is distinguished. First, as manager of the Ray Sand and Gravel Company and engineer for the State Concrete Materials Company, he is the only man in Detroit who is not in the automobile business. This in itself marks him for the Hall of Fame. Secondly, he is a grandfather, not in itself a unique distinction but considering the pulchritude, character, and promise of Keith Williams Harrison, a rather distinguished position. Louis's second daughter is soon to be married and then with a sigh of relief — to which, however, he does not give vent — he and Mrs. Williams are planning to settle down to a life of double blessedness except as their tranquillity is disturbed by visits from the grandchildren. I suggest here and now that Louis contemplate participation in our Tenth Reunion, as one of the soundest moves in a career embodying acumen and judgment.

Before closing this epistle, let me urge upon you all once more that 1930 marks a five-year celebration of the All-Technology Alumni, and passing from quantity to quality, that the Class of '01 holds its third decennial reunion in 1931, one year later. Do more than improve the traffic conditions in Hell. — ALLAN W. ROWE, Secretary, 4 Newbury Street, Boston, Mass. V. FRANK HOLMES, Assistant Secretary, 250 Stuart Street, Boston, Mass.

#### 1904

The first item of interest was gleaned from a recent issue of the Boston *Sunday Herald*: "Mr. and Mrs. Charles H. Dunker of Brookline were hosts at a bridge and tea given in their home at 47 Penniman Road to announce the engagement of their daughter, Miss Marie Priscilla Dunker, to Herbert K. Draper, Jr., son of Mr. and Mrs. Herbert K. Draper of Canton. The fiancée is a graduate of the Choate school in the Class of '26, and attended the New England Conservatory of Music as an advanced student. She is a member of the Kappa Phi sorority. Mr. Draper, who graduated from the Huntington School, is now a member of the senior class at Colby College. He is a member of D. K. E. fraternity." Most of us remember Herbert K. Draper, Sr., as Kins, the burly fullback of the famous freshman team of the Class.

#### THE TECHNOLOGY REVIEW

The junior members of the Class have been increased, so far as I know, by two. Cy Ferris reports that on August 13, the fifth addition to his family arrived in the person of Gretchen, and I am glad to give you this belated announcement. On January 13, I received a little card announcing the arrival of Margot Cunningham on January 12, at the home of Earl Cunningham in Cohasset.

The Class was unusually well represented at the Annual Alumni Dinner on January 18 when nine members of the Class attended. They were Mrs. S. P. Williams (Frances Ropes), Haley, Mert Emerson, Gene Russell, Howard Moore, Munster, Hartshorne, Phil Sweetser, and myself. I had not attended an Alumni Dinner for several years and found this one to be a very enjoyable occasion.

Not long ago I met Dwight Fellows. For many years Dwight was engaged in the mining business, being located at the Baltic Stamp Mill, Red Ridge, Mich., but a couple of years ago he forsook that occupation and returned to the scenes of his childhood in Newton Centre. He then was with the Department of Public Works of Massachusetts as an engineer in the highway division for some time, but is now occupied in a similar position in the Metropolitan Planning Board, so that we shall have a hand in the great work which that Board seeks to bring about.

Mert Emerson returned from his fall trip to Europe about December 1 and he told me at the Alumni Dinner that he expected to go back again in the spring on another trip. He has returned from Syracuse and is now again located in the Boston offices of the Lamson Company, which is greatly to his satisfaction and also to all of us who depend upon Mert a great deal for staunch support in class matters. Mert certainly is the best known member of the Class throughout the length and breadth of our fair country.

Some time about December 10, Mert forwarded to me the following letter to him from W. A. Hyde, which bears out the statement I made above. "I have been reading your frantic efforts to get the boys to loosen up for years but haven't felt that there was much that I could say. On this Friday evening I am to show some slides at the Huntington Building, Northeastern University, before the student branch of the A. S. M. E. They will show air waves about bullets in flight and I'll try to keep the boys from shooting me by keeping the lights out and going out the back way. However that may be, I'd be mighty glad to see you there if it happened to be convenient. At present I am pretty busy trying to build up a research department for the centrifugal industry in the Barrett Company and like it immensely." Owing to the fact that I did not receive the letter until after the date when Hyde delivered his talk, I was unable to attend it and shake hands with him, which I should have been very glad to have done. Hyde is located with the Leon J. Barrett Company, Worcester, Mass., manufacturers of centrifugals. The letterhead on which he wrote seems to indicate that centrifugals are machines for



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extracting liquids from substances by whirling them around within the machine. I am sure that if any of you are in Worcester and could drop in to see Hyde he would be able to give you some very interesting information regarding these matters.

I am not at all jealous because Mert is better known than I am and I should be very much pleased if other members of the Class wrote to him as such letters would be relayed to me and thus brought to your attention in these notes.

The little section of my card catalog which contains the names of those of our classmates who have passed on has been increased by four during the past few months. Henry R. Davis IV died at Milton, Mass., on November 11, 1929. He had for some time been located with Ralph Harrington Doane, architect, on Newbury Street, Boston, and I occasionally met him about the city. Charles A. Hardy III died at Chatham, Mass., on November 30, 1929. It seems very sad to me that the first news I have had of a classmate, whom I knew very well at the Institute and whom I have neither seen nor heard from since those days, should be the report of his death. On December 29, 1929, D. Frederick Dow died at the construction camp in Waterville, N. C., where he was employed by the Phoenix Utility Company, a subsidiary of the Electric Bond and Share Company, as engineer in charge of the Waterville hydroelectric development. Two weeks before his death he came north to attend the golden wedding anniversary of his parents. Upon his return to Waterville he was stricken with a complication of influenza and pneumonia. Weakened vitality, resulting from the heavy pressure of his work which they hoped to complete by January 1, probably hastened the end.

Many of us will recall that Fred was associated with George Fairfield in the practice of civil engineering at Mineola, Long Island, N. Y. During the war he severed his connection with the firm and engaged in government plant construction work. He later engaged in several important engineering projects and finally became associated with the Electric Bond and Share Company of New York City. Five years ago he was given the assignment of engineer of the preliminary survey to determine if the vast resources of water power in the Pidgeon River country could be made available for the Phoenix Utility Company, a subsidiary company. This is the most difficult undertaking in which the company had ever engaged, a gigantic feat encompassing the building of an entire town, power house, tunnel, and railroad system, and known as the Waterville Hydroelectric Development for the Carolina Power and Light Company.

The purpose of the undertaking involved the construction of a tunnel six miles long, cut through solid quartzite for the purpose of conducting water from the source to a dam at an elevation of 861 feet below the source, where it is delivered to the turbines for the development of electric power. The tunnel was

made in the shape of a horseshoe with an approximate diameter of fourteen feet throughout. The necessary excavation totalled 265,000 cubic yards of hard quartzite. Construction of the tunnel was in itself a mammoth undertaking but there were other engineering problems involved. The enormous pressure of this column of water fourteen feet in diameter and six miles long, had to be carefully reckoned with. The particular problem which concerned the engineers was the change of pressure which would result if all the machinery at the power house were suddenly stopped. This would set up vibrations in the stream of water in the tunnel possibly resulting in dire consequences if no means were provided for absorbing the shock.

More than 35,000 cubic yards of solid rock were excavated to provide ample room for the setting of the foundation of the big dam, which was built in twelve sections, each fifty feet wide, with vertical openings eight feet wide between them. When the sections had set for six months, concrete was poured into these openings in cold water thus providing for final shrinkage of the concrete and avoidance of damage by further contraction. The entire project is a little mountain world within itself, the town being built in the cliffs on the side of a mountain. Work had been rushed with the hope that power could be turned on January 1, and this would have been accomplished but for the untimely death of Fred, the engineer in charge. It is now believed that the work will be finished within the next two or three months. Power will radiate from this plant to distribution plants in North Carolina and Tennessee.

Fred was a graduate of the Melrose, Mass., High School. He is survived by his wife, Mrs. Helen Sawyer Dow, and his father, mother and brother. We sincerely regret the passing of our classmate at a time which seemed to mark the zenith of his engineering activities.

Mrs. George H. Keith (Linda Frazer) died at her home, 570 Eliot Street, Milton, Mass., January 1, 1930, after an illness of several months. Mrs. Keith attended the Twenty-Fifth Anniversary celebration last June and it was a great shock to us to learn of her death, as it seemed such a short time since we were all present at that occasion.

You have all probably learned by this time of the proposed All-Technology Reunion to be held on June 6 and 7, and doubtless are planning to participate. At the present writing plans for our Annual Class Reunion are very much in the air on account of the big affair. I expect to gather together within a short time some of the Old Guard to discuss how we may work this out to the best advantage of all concerned. I sincerely hope that I shall have as much news to give you in my next letter, and that the items may be of a more cheerful nature. — HENRY W. STEVENS, *Secretary*, 12 Garrison Street, Chestnut Hill, Mass. AMASA M. HOLCOMBE, *Assistant Secretary*, 3305 Eighteenth Street, N. W., Washington, D. C.

## 1905

Here is the second and final installment of Harry Wentworth's story, written on December 9, on the stationery of the Dollar Steamship Line, the S. S. *President Taft*. "I received your welcome note on my return to Yokohama from Shanghai. We are now nearing San Francisco and it certainly will be good to get our tootsies onto the United States mainland again. We have had a wonderful time. It is difficult to picture our activities, the hospitality of the Japanese, the myriads of invitations to tea parties, balls, dinners, homes, plants, and scenes of historic and religious interest. Technology men were everywhere: Americans, Japanese, and Chinese. Our Technology dinner given in Tokio by Mr. Mitsui '18, at which Baron Dan '78 was toastmaster, had nearly all the older classes represented, and it was a great success. I believe I told you I was one of the Technology infants going over. Of the eighteen Technology men in the party from America, I was third from the youngest, as I remember, and I came from the antique Class of '05.

"Mrs. Wentworth and I drew our lot to be quartered in Yokohama, and for ten days we commuted to Tokio, twenty miles away, with our clothes for afternoon and evening in our bags, leaving at 9 to 9:30 A.M., and returning at 1 to 2:30 A.M., also, but not the same A.M. In addition to the meetings, every afternoon and evening were devoted to a social function, usually by some baron on his estate, winding up with Prince Chichibu's (a brother of the Emperor) garden party, and the Emperor's tea party. Never have I worn a silk hat so much nor seen so many (and incidentally such a variety of vintages) at one time — oceans of them it seemed at the big functions.

"Then came the trips about Japan. The Government had given us free transportation everywhere. We spent nights on the trains, up at all hours (and most every hour at times), until we were exhausted. Yokohama Day, Tokio Day, Magoya Day, Kyoto Day, Nara Day, Osaka Day, Kobe Day, and so on, each with its unique entertainment and specialty. Then a dozen or so of us left the main body and sailed from Kobe to Shanghai, thence immediately by train to Hangchow, to see a real Chinese city, back to Shanghai for a couple of days, and onto the good old *President Taft* for home. A wonderful time, a marvelous experience, a liberal education, a modification of many ideas, and, best of all, now bound for home."

Errett Graham says he is on the same old job with "Monon" otherwise the Chicago, Indiana, and Louisville Railway, stationed at Rensselaer, Ind. — Another postcard from Elmer Wiggins, from Rome, indicates another interesting trip which will have to be written up. — I sat with Bob McLean at a recent meeting of the Alumni Council of which your Secretary is a member-at-large. Bob represents some distant city, so they say. — Before leaving New Castle, Penna., for temporary residence elsewhere, Fred

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Poole sent us a Christmas present, a little brass pelican with an engaging smile. Its vocation is an ash receiver. Gratefully appreciated.

John Glidden wrote from Alcanfores 229, Miraflores (Lima), Peru, in December. "I saw Bill Motter about a year ago in Santiago, Chile, and again in New York, but I had no good opportunity to chase up any '05 men with whom I had much of an acquaintance in the old days. I note your proud and boastful statement that both you and Grove Marcy can yet wear your Technology pants. Pride like that will have a fall one of these days and will deserve it, too! If you can imagine me at 198 pounds in place of the 125 pounds that I frequently and successfully hid behind a trolley pole when a cop was hunting for me, you will have a picture of me today. What did it? Booze and laziness, of course — what else?"

Your Secretary, bound for New York, was quietly reading in the train as it stopped in New Haven when Herb Wilcox plunked himself down beside us and we had a good chin all the way down. Herb is still with Electrical Research Products, sister of Bell Telephone Laboratories and daughter of Western Electric, to whom he is handing over a generous share of what we all turn in to the walkie talkie palaces. — Fred Goldthwait writes that he was surprised, last September, to have a stranger draw up at his summer place in New Hampshire and ask where Ros Davis was. He was nowhere near but had been within a mile and yet the two had never met.

Commander W. Alden Hall, U.S.N., attached to the United States Naval Mission to Brazil, writes from Rio de Janeiro: "I not only think of the year I spent at Technology often, but frequently relate the experiences of our band there, the dances, the day you filled your trombone with water, and the final review when Tuck, the drum major, nearly lost the curtain cord he had wound around himself. I have had a lot of foreign service but my shore duty has all been on the East Coast. However, things don't click just right for me to be present at the big reunions. I am afraid that I will always have to have something bright and shiny to be remembered by, now the silver euphonium has been replaced by brass buttons and gold lace. On June 6 and 7, 1930, I am afraid I will be teaching the Brazilian officers how to be good tacticians.

"I originally went to Newport as a student at the Naval War College. After the first year they retained me on the staff to help teach the boys strategy, where I remained for two years. The next two years I spent at sea, commanding a division of six destroyers for a year and a half and the last six months serving as senior aide, and acting chief of staff for the Admiral commanding the destroyer squadrons, scouting fleet.

"From this duty I came down here in August, 1927, as naval attaché at the American Embassy, where I remained for a year and nine months before being transferred to the Naval Mission. We

have another classmate here on the Mission, Russell Willson, who was both a classmate of mine at Technology and at the Naval Academy. I don't expect to return to the United States before June, 1931, so if you or any of the Class happen down this way, be sure to look me up, for I would be very glad to see any of you again."

From a report in the New York *Herald-Tribune* covering the Institute of Statesmanship held at Rollins College, Florida, in January, came the following: "Norman Lombard, Executive Vice-President of the Stable Money Association, leading an open forum on 'how public opinion influences prosperity,' referred to the so-called 'Hoover plan' of keeping up the business morale of the country as the 'sunshine plan' or the 'Pollyanna plan.' He avowed himself a propagandist in favor of his association's effort to enlist the power of public opinion toward the production of 'stability in the general level of prices.'

"An increasing body of business men," said he, 'are coming to the view that the price level may be made to pursue the even tenor of its way by increasing or decreasing, as conditions may dictate, the volume of money and credit in circulation.' He concluded that such economic upsets as followed the recent stock market depression might find solution in the stabilization of the value of gold itself."

The many friends of Edward M. Coffin will be grieved to hear of his death in Newburyport on January 15. The following notice appeared in the Newburyport *Daily News*: "Mr. Coffin was a graduate of Technology, Class of '05, a chemical engineer by profession, and for a number of years had been staff engineer of the Massachusetts Associated Industries, the well-known organization devoted to helping solve the problems of manufacture in the state, and particularly those problems which prevented the finest relation between the manufacturer and his employees. In the practical and humanitarian tasks of this work Mr. Coffin found a challenge congenial to his own character. The wisdom which he developed made his counsel so valued that it was constantly demanded even when he could give his occupation only part of his time and attention.

"The same practical ability and idealism of aim were contributed loyally to many causes in Newburyport. Mr. Coffin was a member of the school committee for three terms, during which time he devoted much effort and vision to studying the possibilities for a new high school. Plans for the development and beautification of Newburyport always appealed to him. He was an interested member of the Unitarian church, and of the John Lowell Chapter of the Unitarian Layman's League. He contributed much by his fellowship and papers to the Tuesday Night Club of this city. He was a member of the University Club of Boston, and had been always a worker in the reunions of his Technology Class, and in the general Alumni Association of the Institute.

"Mr. Coffin's greatest avocation was yachting. A member of the American Yacht Club, he was instrumental in the success of the sailing events of the last Newburyport Day. He usually raced in the summer for a fortnight at Marblehead, and was generous in the hospitality of his boat.

"To these many interests, Mr. Coffin gave himself with unusual loyalty and self-forgetfulness, continuing in spite of his uncertain health of the last few years. His character touched all who knew him with its strength and elevation. He faced life with high and serene courage; accepted each turn of fortune (many of them handicaps) without complaint; when one path closed, he turned quietly to another; always living according to his own high ideals, with no criticism in his heart of others; interested in every good thing, and finding it a happiness to give himself where he could serve." — ROSWELL DAVIS, *Secretary*, Wes Station, Middletown, Conn. SIDNEY T. STRICKLAND, *Assistant Secretary*, 20 Newbury Street, Boston, Mass.

## 1906

Nine of the faithful attended the Alumni Dinner held at Walker Memorial on January 18. They were G. W. Abbott, Herbert Ball, Sherman Chase, Charlie Casson, Charlie Mowry, Ned Rowe, Abe Sherman, Charlie Wetterer, and the Secretary. There are no special news items to report concerning this group as they are all following the same line of work which they have been for some time. Charlie Casson has changed his relations with the Edison Company to a certain extent in that he has given up his active connection with the organization but is retained for consulting work which he looks forward to doing in the future.

Sherman Chase, who is with Metcalf and Eddy, reports that Clarence Carter, who is with the same concern, has been in Allentown, Penna., for a couple of years in connection with the construction of a sewerage treatment plant and it is expected he will spend more time in Allentown before the project is completed.

Ray Philbrick, who has been very faithful about making the trip from Hartford to attend these alumni dinners, wrote the Secretary he could not attend this year as he was to be away until February 4. Apropos of this notice, the Secretary has just received a post card from Jamaica with the following message included there: "Greetings from the Technology '06 Club of Jamaica (newly organized). Herb Whiting and H. R. Philbrick." The beautiful green palms shown on the other side are certainly some contrast to a drab winter's day in Boston.

Some echoes of the World Engineering Congress in Tokio are of interest to the Class. Bill Furer submitted a copy of *Bulletin No. 50* of the Engineering Association of Hawaii, describing the reception of some of the delegates who were aboard the *President Taft*, returning from the Congress. They stopped at Honolulu on December 5, and were entertained by the Hawaii Engineering Association. The



1906 Continued

party included H. A. Wentworth. Furer asked Wentworth to convey greetings to the Secretary and Wentworth carried out the Commission by writing, "Best regards to Kimo Kidder of '06." This salutation needed no explanation as to its source.

Guy Ruggles, who is still holding forth at Inspiration, Ariz., is responsible for the following: "Professor Charles E. Locke '96 recently passed through here on his return from the World Engineering Congress at Tokio. He was accompanied by Dr. T. G. Chapman '09, Professor of Mining and Metallurgy at the University of Arizona. Dr. Chapman was conducting Professor Locke on a rapid tour of southwestern Arizona, visiting many of the mining and metallurgical plants. While they were in the Globe-Miami district it was possible to hold a dinner to which were invited all of the Technology men in this section. Owing to the short time available, it did not seem advisable to extend the invitation beyond the Globe-Miami district. Those present, in addition to the two guests, were: G. H. Booth '98, F. W. Libbey '06, H. C. Plummer '06, H. S. Duncan '07, F. S. Small '17, I. M. Symonds '25, and G. H. Ruggles '06. This dinner was held at the Dominion Hotel at Globe on Saturday, December 14. I am somewhat ashamed to say that this was the first gathering of Technology men in this district that has ever been held. However, in our reminiscences we made up for lost time and it seemed to be the opinion of every one that the evening was an enjoyable one. I trust that we may be able to repeat this gathering and possibly extend our invitations to other parts of Arizona."

Guy's interest is appreciated in sending this newsy letter. His excellent example should be followed by more classmates. Guy also submits a clipping from the *Wall Street Journal*. "Wilfred R. Wood and the Irving Trust Company, receivers of Combustion Engineering Corporation, New York, subsidiary of International Combustion Engineering Corporation, announce the appointment of Joseph V. Santry as head of that organization to succeed Colonel H. D. Savage, who is assisting the receivers. Mr. Santry, who became identified with Combustion Engineering Corporation shortly after its organization in 1914, served successively as Director and Vice-President in charge of sales for five years and as President for four years, resigning about two years ago."

Charlie Wetterer also deserves honorable mention in this connection as he submitted a similar notice from the *Boston Evening Transcript*. — JAMES W. KIDDER, *Secretary*, 8 Harrison Avenue, Boston, Mass. EDWARD B. ROWE, *Assistant Secretary*, 11 Cushing Road, Wellesley Hills, Mass.

## 1907

We regret that we have so little news to pass on to the Class in these notes recently, but information regarding men of '07 is slow in coming to us. It is an old and familiar story, but may we suggest that if you who read this would write us

about yourselves and the other classmates whom you know, we would soon have a more readable column?

The *Wall Street Journal* of January 18 states that our Jim Barker has been made Vice-President of Sears, Roebuck and Company in charge of the eastern territory, which includes the Philadelphia and Boston regions.

Here are the classmates whose new addresses indicate a wide geographical distribution. Howard J. C. MacDonald III reports his location at State Institute, Hotel Savoy, Rojdestvyenka, 3 Moscow, U. S. S. R. Lawrence C. Hampton III is with the Atlantic Refining Company of Africa, Ltd., Box 697, Capetown, South Africa. Francis H. Kales IV may be reached in care of Algar and Company, 5 Hongkong Road, Shanghai, China. Karl Richards has left the Hudson Construction Company of Boston and is now associated with J. W. Bishop Company of Worcester. He is still living in Needham, Mass. — BRYANT NICHOLS, *Secretary*, 2 Rowe Street, Auburndale, Mass. HAROLD S. WILSON, *Assistant Secretary*, Int. Shoe Company, Manchester, N. H.

## 1908

The Class was represented at the Alumni Association Banquet on Saturday evening, January 18, by Gurney and Toot Ellis.

The second get-together dinner of the 1929-30 season was held at Walker Memorial on February 11. Beede again showed moving pictures taken at the Twentieth Reunion, also several other interesting films. Following the pictures, the question of the Class's participation in the All-Technology Reunion next June was discussed. Alton Cook was elected chairman of a committee to have charge of the whole matter. More definite details will be available before long, and will be reported upon at the April dinner.

Philip J. Hale is again on the move, his most recent address being in care of Ashmore, Benson, Pease Company, Ltd., Stockton-on-Tees, England.

Your Secretary would much appreciate letters from any of you telling what you are up to and where you are located, so we can pass the information along to the Class. — HAROLD L. CARTER, *Secretary*, 185 Franklin Street, Boston, Mass.

## 1909

The following members of the Class were present at the Alumni Dinner held at the Walker Memorial on January 18: Gram, Perry, Spencer, Chapman, Young, Howe, who came over from New York, and Main. Tom Desmond, who has charge of the All-Technology Reunion to be held in June, was expected to be present to outline plans for the Reunion, but he was unable to come to Boston on that evening. The Reunion will be held in Boston on June 6 and 7 and it is hoped that a large number of our Class will be able to attend. — CHARLES R. MAIN, *Secretary*, 201 Devonshire Street, Boston, Mass. PAUL M. WISWALL, *Assistant Secretary*, The Postum Company, 250 Park Avenue, New York, N. Y.

## 1910

At the Alumni Dinner on January 18 we had nine members of the Class: Babcock, Briggs, Cleverdon, Crommett, Fernstrom, Greene, Schleicher, Sittinger, and your Secretary. We all seemed to be prospering, as far as any of us would admit, and we are looking forward to our Twentieth Reunion in June of this year. No plans can be made until we hear the plans for the All-Technology Reunion, but we will probably have a dinner in Boston at the time of the Big Reunion, and a week-end somewhere before or after that event. The Secretary would be glad to hear suggestions from any one. — DUDLEY CLAPP, *Secretary*, 16 Martin Street, Cambridge, Mass.

## 1911

For the first time since long before the War, if not since the graduation of our Class, your Secretary missed the Annual Banquet of the Alumni Association here in Boston this January, much to his regret. Mrs. Denison and I took a fifteen-day cruise to the West Indies in early January and had hoped to dock in New York on Saturday, the eighteenth, in time to catch the one o'clock to Boston, but this did not happen as we hoped, so a radiogram to President Litchfield had to serve. Those '11 men present at the dinner were William H. Coburn, Calvin P. Eldred, Russell B. Francis, H. G. Jenks, Arthur F. Leary, Charles A. McManus, Theodore B. Parker, O. W. Stewart, Norman S. Wade, and Albert O. Wilson.

Through the splendid efforts of Raymond and Whitcomb Company — Emmons Whitcomb XI, Vice-President — we sailed on January 4 from New York on the Royal Mail Steam Packet Company's S. S. *Araguaya* and after three delightful days at sea spent a day at Nassau in the Bahamas. Terrible destruction was still in evidence from the devastating hurricane of last fall, but the British subjects seemed to be bending every effort to repair damage and get back to normal.

Two days later we were at Havana, capital and key city of Cuba — very much Americanized and reminiscent of New Orleans in no small measure. Here there were arranged highly interesting side trips during the day and a half spent there, including a glimpse of the *Jai Alai* (*Hi Li*) game and the famous Casino night life. I tried to get in touch with Luciano Goicoechea '12 while there but was unable to.

Two days later we steamed into Santiago Harbor and here found a decided contrast from the Americanized Havana in a truly Cuban city, diagonally across the island. Never was there such marked friendliness towards tourists as that shown by the Bacardi Company, age-old manufacturers of Bacardi rum. It was our good fortune to be one of four couples personally looked after by F. E. Bacardi, first Vice-President and an Exeter graduate in 1913. Among other things he told us that the new highway across to



1911 Continued

Havana is well under way, with Warren Brothers of Boston building it. It should be done during 1931. All about Santiago, but particularly on San Juan Hill, are lasting evidences of gratitude to the United States for its part in the liberation of Cuba in 1898.

The next day we were at Kingston, Jamaica, like the Bahamas a British possession and here we saw glorious tropical country during a forty-mile drive into the interior of the island. The people seemed very contented and comfortable, but the next day at the last stop on the trip we saw the most pitiable conditions Mrs. Denison and I have ever seen. This was at Port-au-Prince, Haiti, where, of course, the United States Marines are still very much in evidence. Beggars are everywhere in the streets and the stores and houses are shabby and ill-kept, with the streets and sidewalks also in wrack and ruin.

Mrs. Denison and I were both members of the sports committee on the boat, and as you might surmise, the Secretary of the committee was O. B. Denison (in person, not a movie). It was lots of fun and imagine my delight towards the end of the cruise when at a dinner one of the other committee members called me forward and presented me with a handsome cane-umbrella from the passengers as a lasting appreciation of the committee work I had performed. Both Mrs. Denison and I were greatly benefited and charmed by the glorious trip and when any of you want a fine outing here it is and you'd be surprised how quickly you get out of touch with the noble experiment.

It is delightful to be able to tell you here and now that the report received in 1924 of the death of C. L. Bartlett II was grossly exaggerated and we now learn from Professor Fernstrom (K.D. '10) that Charlie is now with the Newport News Shipbuilding and Drydock Company at Newport News, Va.

Those of you who failed to note the article in the December Review (page 75) on the architectural masterpiece of Ralph T. Walker IV, should at once turn to it and read of the new New York Telephone Company Building.

With the All-Technology Five-Year Reunion actually scheduled for the first week-end in June, 1930, and our own Fifteen-Year Reunion only a little over a year away, the usual secretarial plea: "Write to Dennie!" should certainly be dutifully attended to by all loyal classmates, for it is through the interesting qualities of these Class Notes that limitless enthusiasm for class get-togethers can best be stimulated. So do! — ORVILLE B. DENISON, *Secretary*, 32 Reed Street, Lexington, Mass. JOHN A. HERLIHY, *Assistant Secretary*, 588 Riverside Avenue, Medford, Mass.

## 1912

We hate to keep talking about money, but this time it ought to sound like good news to those of you who are always worrying that we'll ask for another dollar for class dues. Your Assistant Secretary attended a little gathering of the '12 brothers at Doc Wiseman's bachelor

apartment the other night and the boys donated \$2.85 to help keep the Class going. Of course your aforesaid Assistant Secretary had to pull some awful bluffs with just a lousy pair, or try for inside straights and get them, but anyhow, after four hours of hard work we settled up nearly three bucks to the good. The philanthropic brothers were Henry H. Codding VI, Lester M. White X, P. L. R. Flansberg VI, and Doc Wiseman VI.

It sure is a lot of fun to get together with the old gang occasionally, and that makes it apropos to mention here that we are going to have a Twenty-Year Reunion in 1932. Yes, brother, we are! We already have about enough money and men pledged to assure us that there will be a reunion, at which time there will be poker games and parlor games, outdoor sports and indoor sports, Sunday school stories and smoking room stories, in short, fun and frolic for all. Something to amuse and interest every one. If you still have young ideas, they will be catered to. If you're already old and serious or feeble-minded, your welfare will be guarded with the utmost solicitude. If necessary, we'll even provide some handsome, darling, young man to dance with your wife, while you sit in your wheel chair and rest your rheumatic joints. In 1932! It won't be long now.

"Boy, boy, death and taxes have nothing on you," writes Raymond C. Foster IX. "You are just as certain as either of them, more power to you. It's a grand trait but it's tough on the customers. I'm certainly glad you don't solicit business from me. Anyhow, here's the dirt: age forty; weight 165; height five feet, eight inches; hair pretty doggone gray. I'm married, yes, and a lot luckier than I deserve, just as is true of most fellows, and I have two children, Sonny, aged ten and a half, and Sister, nearly five. My vocation is peddler, or to put it more dignifiedly, perhaps, sales manager of the specialty division of The Borden Company. My avocations are fishing for trout, automobiling, and playing Little Red Riding Hood to the Wall Street wolves. My bad habits include none of the lesser ones. That's the story, Dave, nothing to marvel at, as I read it over, but such as she is, you have her."

We never would have dragged this letter out of Ray except for some lucky breaks. Out of the whole six million people rushing madly around New York, we bumped into him one day a year ago on West 43d Street and asked him to write us some dope. Of course he said he would — and didn't. Two months ago we hailed him again, this time on Fifth Avenue. We asked him again. Sure, he'd do it right away — and didn't. But our letter last week must have shamed him into it. So that's that.

Except for Foster's letter, most of the above stuff is just a lot of plain hokey, rattled off by your over-worked secretarial department, for want of anything more substantial. Why not do just a little something to help? If you're not too old and feeble to push a pen, drop us a line and tell us what you are doing.

Your Secretary publicly apologizes to Hamilton Merrill X for not publishing his last letter. It hardly seems possible that such can be the case, as incoming letters are so few that they seldom escape. Be that as it may, here's his last letter: "Last July the American Schaeffer and Budenberg Corporation, of which I was the works manager, was bought out by the Consolidated Ashcroft Hancock Company, and it was decided to move the Brooklyn factory and merge it with the Bridgeport factory. This I have been doing for the past year and have just finished. During this period, which was one of the busiest in our history, we were faced with the problem of getting our skilled instrument mechanics to move up with us to Bridgeport. However, our troubles are now past history, and I am enjoying good health as works manager of the combined factories."

The Annual Alumni Dinner held in Boston was missed by your Secretary because he had an extremely severe cold which kept him in bed for two days. I have reliable information, however, that three old-timers were on hand, namely Tarr, Lang, and John Lenaerts. — FREDERICK J. SHEPARD, JR., *Secretary*, 125 Walnut Street, Watertown, Mass. DAVID J. McGRATH, *Assistant Secretary*, McGraw-Hill Publishing Company, Inc., Tenth Avenue and 36th Street, New York, N. Y.

## 1913

There was not a very large representation at the Annual Dinner of the Alumni Association, only seven present: Al Brown, Cushing, Glancy, Howie, Loebenberg (S. M. '13), Butsey Bryant, and Townsend. It was a very good evening. More classmates should turn out. Well, anyway, we have the Five-Year Reunion in June and we must all turn out for that.

Now for the scoop, as the newspaper men put it. Glancy has only recently stepped off into the realms of matrimony. Congratulations, Glancy, and please extend to Mrs. Glancy our best wishes.

Howie is engineering for the Cambridge Gas Company and during a brief conversation laid down such a barrage of facts and figures that we intend, immediately, to put in gas heating, if we can only find the price. — Loebenberg is one of the high officials in the Allied Chemical organization, with offices in New York. His title is director of manufacture — not so bad. This is the first time we have seen him at an alumni affair. Let us hope he comes often.

Our plea for news from classmates has at last fallen on fertile ground. A nice long letter has recently been received from Larry Hart. After his eighteen months of residence in Kokomo, he is back in New York and is again with the Johns-Manville Company. His address is 292 Madison Avenue and he extends an invitation to his '13 friends to call. He reports seeing Franzheim and Holmes occasionally.

I had a phone call from Jim Russell the other day. He is still hale and hearty, gaining in weight and good looks, and you will remember that is going some

1913 Continued

for Jim. Phil Capen recently came to life with a phone call. He has taken over more duties at the plant in Canton, thus taking him off the road and leaving him pretty well tied up at home.

Butsey Bryant, having taken over the duties of his father's business, reports that things are going well and that business is very good and on the increase. — GEORGE P. CAPEN, *Secretary*, 50 Beaumont Street, Canton, Mass. ARTHUR L. TOWNSEND, *Assistant Secretary*, Room 3-435, M. I. T., Cambridge, Mass.

## 1914

For another year, because of his position as Vice-President of the Alumni Association, your Secretary was unable to sit with the Class during the Annual Alumni Dinner held in Boston on January 18. Your Secretary promises, however, to rejoin the ranks for the next dinner. Jimmy Judge was the only one who came from any distance. He made the trip from Holyoke. Thorn Dickinson was present for the first time in several years. Thorn, it will be recalled, has returned to Boston after a very extended absence. It seemed good to have him with us again. H. S. Wilkins was the only other '14 man present.

The New York Motor Boat Show was very complete this year. The success of the Show was due to the presence of Dean Fales. Not being burdened with the professorial cares of the Institute, and having regained much of his lost health, Dean was at the Show at his best. All further reports are censored.

From time to time, a cheery word comes from Porter Adams, who is still out at Tucson, Ariz. Pat is making progress, but is being kept decidedly on the rest cure. Much to his disgust he was not even permitted to send out Christmas cards. His letter writing is naturally kept at a minimum. He, therefore, has asked me to tell all '14 men that he has not forgotten them, and that just as soon as he gets away, so as not to be under an almost military discipline, he will start issuing his usual reports. Pat, however, is just as eager to hear from his friends as ever. Remember his address is the Desert Sanatorium, Tucson, Ariz.

Through his contact as a member of the Executive Committee of the Reunion, your Secretary is learning of many big things that are being planned. From present indications this Reunion is going to have all the characteristics of a grand event. It will not be merely a gathering and a reunion in a perfunctory way, but one that will be not only enjoyable, but particularly instructive. It is one of the most unusual reunions the Alumni have ever planned. The time is convenient, and it will be over a week-end, the first week-end in June; therefore, make your plans now to come to Boston. Of course '14 is going to stage a dinner of its own. More about that later, and not for publication!

In the last issue of *The Review*, mention was made of a patent granted to H. A. Affel. Recent copies of the *Patent Gazette* have contained two new patents

of Affel. One covers compensation for phase variations, and the other, piezoelectric interference elimination. Affel may know what this is all about, but to most of us it's plain Greek, and indicates that there is at least one member of our Class who has retained some of his Technology training. We stand in awe of such a learned individual. And to prove further that Affel is a great man, and that his efforts are not all limited to patents, it is with exceeding pleasure that we quote from a recent announcement. "Mr. and Mrs. Henry Pape have the honor of announcing the marriage of their daughter, Dorothy Ruth, to Mr. Herman Andrew Affel, on Saturday, December 28, 1929, at Brooklyn, N. Y." Our most sincere congratulations, Herman!

Back to patents again! We find Ed Wenthe listed among those of great learning. The *Patent Gazette* announces that he has been granted a patent on "a method and apparatus for determining the properties of acoustic materials." This is something we can begin to understand. Perhaps some day some one in the Class will get a patent on a milk bottle stopper or something of the sort, that we really know about.

We are saving the choicest bit of news until the last. It comes in the form of a letter from none other than O. C. Hall. To be sure, O. C. tells about a new connection with the Bell Laboratories in New York, but the great piece of news is his marriage. As Hall's letter is typical of his own style, it is being quoted in its entirety. "By this time you have probably received Aff's announcement. Of course, he would be on his honeymoon when I wanted him as best man for me.

"All of which leads up to the announcement that on January 2, I was married to Miss May Gardner. May is pursuing the study of medicine at Bellevue, and we commute daily in our flivver (which is a Chevie) from Radburn to New York. We have just bought a house in "Radburn—the Town for the Motor Age" and are very enthusiastic about it. It is a tract of about 1,200 acres near Ridgewood, N. J., and a fundamental plan has been laid out for a town of 25,000. About 175 houses, two apartments, and one large community center and business building have been erected. The Telephone Company is building a central office. The houses are all different — twenty-six plans, each of which is reversed and executed differently. For plan 101, for instance, one house will have a gable roof, another a peaked roof, some will be shingle, some brick veneer, some brick first story and clapboard second story, and so on. The price includes everything — landscaping, garage, walks, sewer, parks, and so on, and the monthly payment likewise includes everything except repairs, that is, interest and amortization on mortgages, taxes, fire insurance, water tax, and so on. The prices range from \$7800 for a five-room house to \$16,200 for an eight-room brick veneer house with two baths.

"As medical school takes lots of work — 9 A.M. to 5 P.M. and about seven hours of home work — it looks as if I would de-

velop into a cook of sorts, but wait till summer vacation and see if I am not a gentleman of leisure. I also have a new job with the Bell Laboratories. I see Wenthe every now and then. My new home address is 1 Burlington Place, Radburn, and we would be glad to show any '14 men our new town. (We get no commission, unfortunately.)" — HAROLD B. RICHMOND, *Secretary*, 30 Swan Road, Winchester, Mass. GEORGE K. PERLEY, *Assistant Secretary*, 21 Vista Way, Port Washington, N. Y.

## 1915

Last month you were warned that our column is approaching zero as its limit. This month it is dangerously close. It depends wholly on your interest in writing me whether we have any column at all. The first general announcement of our coming Fifteenth Reunion has reached you by now. I hope and want to hear your reactions and suggestions. Because of the overwhelming success of our Tenth, it was decided to have the Fifteenth somewhere on Cape Cod, conveniently near Boston, about the time of the General Reunion on June 6 and 7. Definite plans will be sent you later. From the enthusiasm and interest expressed by the men I have personally seen, I think this looks like a very successful party for us.

Clarence Howlett X was visiting recently in Boston from Kokomo, Ind., and signified his intention of coming on next summer. His is the first application for the much cherished long distance prize, but I do hope you all will give him lots of competition. You fellows surely have not kept me up late nights reading your letters. — AZEL W. MACK, *Secretary*, 377 Marlboro Street, Boston, Mass.

## 1916

Doubtless everybody will remember the advent of our first Class Baby who is now seventeen years old. His father, Emery Kemp, was only at the Institute a couple of years which gave him somewhat of a head start on the rest of us. Emery writes as follows: "Always having a desire to get into the refrigerating game and finally after five years of production engineering with Lockwood, Greene and Company, and one or two other concerns, I am located with the Jarvis Engineering Company, Boston, Mass., with whom I am still connected having been here since 1921. My activities here consist of having charge of all engineering, superintending the shop and help, doing the purchasing of all materials, and in between time looking after installations. Thus, my time is spent mostly out of the office anywhere in New England.

"We install commercial refrigerating plants from approximately two tons capacity up to two hundred tons on either ammonia or carbon dioxide. I quite often see Harold Russell, whose boiler works are located next to our shop. I would appreciate meeting some of the boys more often but do not seem to run across many in my travels, but read the Class Notes every month with interest.



1916 Continued

"Family statistics include Malcolm Dinsmoor Kemp (the Class Baby) seventeen years old, Virginia Hargrave Kemp, thirteen years, and Ruth Anne Kemp, three and a half years."

I used to run into Cy Guething quite frequently when he was associated with the Merriam Brothers over in Jamaica Plain. He seemed to have disappeared but the following explains his recent activities: "I am now located with the Atwood Machine Company, Stonington, Conn. We specialize on silk and rayon throwing machinery. I have been here since last January. I am sorry not to be able to make any announcements, such as additions to the family or divorce but am bragging that I have held what I had prior to last January with the exception of a car. I found that a car is only a luxury anyway. I would be pleased to hear from any of the gang with news. Please be sure to stop in and take potluck with us when you happen to be down this way."

Harold Gray, after being in Akron for a number of years and making several trips abroad in the interests of the du Pont Company, is now located again here in New England. He is at present assistant general manager of the Wachusett Shirt Company, makers of high grade Whiting shirts, fancy pajamas, and so on. He has been engaged in his present work for the last year and a half. Harold is always modest as to his accomplishments but did admit that he had one boy and one girl. He promised to be among those present at the big Technology get-together coming in June.

As I remember it we had a lot of architects in our Class. News from them has been extremely meager of late so I am glad to pass along the following from G. H. Thomas Washburn: "After leaving the Institute, I joined the Naval Reserve Force and was located at the Great Lakes Training Station in Illinois during 1917 and 1918. In 1919 I was associate architect with George P. Washburn and Sons, Ottawa, Kans. In 1920 to 1922 I practised architecture in West Texas. Since 1923 I have been associated with Roscoe P. DeWitt, architect, as DeWitt and Washburn, Dallas, Texas. We specialize in school and hospital plants."

The following breezy letter was received from Jap Carr: "I plead guilty to the charge of extreme neglect in furnishing class news. My latest previous letter was so far in the dim and distant past that memory fails me. About five years ago I moved from Buffalo, where I had been more or less gainfully employed by the Dunlop Tire and Rubber Company, to the old home town of Wilkes-Barre. Here I have been in the wholesale and retail tire business ever since. Progress has been sufficient to keep the wolf a reasonable distance from the door. The door, by the way, is now a very nice one as I sank the works a year ago into a new house. As long as I can keep the usual mortgage afloat all will be well."

"During the past summer I have had to divide my activities, spending most of my time running my Father's bakery during his illness. This kept me pretty busy

but he is back in harness again now so the load is lighter. I was in New York early in December but did not know about a Technology dinner until after I returned here and found a card from Bill Farthing. If I had known I would have been able to attend have not seen any '16 men for ages. Technology men are scarce here and my few travels have not placed me in touch with many classmates."

Paul D. Harrower reports that after graduating he floated around to a number of localities but is now settled down in the Thomson Laboratories of the General Electric Works, at Lynn, Mass. He is specializing in the manufacture of crystals for radio broadcast. As I understand it these are used for the control of frequency on the transmitting end. Paul admits single blessedness and sees no reason why he should make any change.

John Eberhardt is now living at 248 Gray Street, Arlington, Mass. He is associated with the George Steck Company in Neponset, manufacturing pianos. He is specializing in the manufacture of piano cases. George admits single blessedness.

Talbot Flanders has been associated with the New England Tel. and Tel. Company ever since graduating from the Institute. He is now located in the Boston office working on toll line control. He says it is an extremely busy job to keep ahead of the increasing demand in this particular division. Talbot also maintains that he is single (migosh, how all these good-looking boys stand off the girls is more than I can understand).

We had just about our usual number of '16 men at the Annual Dinner in Walker Memorial on January 18: Jeff Robertson, Santy Claussen, Steve Berke, George Anderson, and myself. I am sorry that more of the boys around Boston were not there for we had a most enjoyable time together. Everybody felt that it was the best annual banquet that we have had for a long time.

Steve Berke is still located with Coleman Brothers, general contractors here in Boston. I gathered that he was chief go-getter when it came to take care of the political end on some big jobs. Knowing Boston as I do, I can imagine that Steve is mixed up in intrigue most of the time.

George Anderson is now teaching mathematics in the Reading Junior High School. After leaving Technology, George went into Naval Reserve Force and attended the M. I. T. Ground School. Later he flew some of the big balloons at the East Fortune Base over in England which was near the Grand English Fleet. Later he did some special work on parachutes in London and then had charge of the Lighter-Than-Air School at Pensacola, Fla. As stated regarding some of the other classmates, George is still single. (Again we wonder.)

It is hoped that it will be possible to arrange some sort of '16 special luncheon or get-together to take place during the festivities of the Grand Reunion this coming June. Any suggestions for such a get-together will be more than appreciated. Please write either Bill Farthing, Hovey Freeman, or your humble Secre-

tary. — HENRY B. SHEPARD, *Secretary*, 269 Highland Street, West Newton, Mass. CHARLES W. LOOMIS, *Assistant Secretary*, 7338 Woodward Avenue, Detroit, Mich.

## 1917

Late news dispatches inform us that I. W. Young, Jr., otherwise known as Deac is with the National Cash Register Company and is now starting a training course in the accounting machine division. In the words of Mr. Young, "same in which Paul Leonard occupies a rather high position." Deac is now at 1946 Rose Villa, Pasadena, Calif.

A regular E. P. Warner section of this column might well be established. According to press clippings, he has been elected President of the Society of Automotive Engineers, professor, Navy Secretary, editor, mathematician, author, or what will you have? At this rate he will exhaust all the possibilities before he reaches his three score and ten.

Both Dean Lobdell and Professor Clair Turner graced the head of the table at the Annual Alumni Dinner. Turner spoke, and with a different style, compared favorably, in holding the interest of his audience, with Robert Lincoln O'Brien, one of the best speakers in New England. Turner gave only one or two examples of his ability as a raconteur, but they served to remind the '17 group of reunions at which he had been present.

As usual the '17 attendance was well above the average of the other classes, but we missed Bill Eddy, Brick Dunham, Monty Lovejoy, and others who had formerly been counted on to do the unusual at the dinner — this year everything went smoothly and quietly. — RAYMOND S. STEVENS, *Secretary*, 30 Charles River Road, Cambridge, Mass.

## 1918

Anaconda Copper has long been a name to conjure with, both in the metal mart and on the financial page. Those '18 men who have already become bloated bondholders should send a tiny thought of gratitude winging across the continent when next they clip their Anaconda coupons, because W. R. C. Russert is foreman of the mine. After four years as assistant foreman of the Original, Anaconda, and Stewart units, he now becomes the boss and dividend creator of the good old Anaconda itself.

News from East Orange is not quite so happy. Clarence Fuller has been very ill with double pneumonia at the Homeopathic Hospital there, but according to the report of January 14 (just before this copy is due) he was progressing slowly. Always a hard worker, Clarence probably is in poor condition to fight anything like that. He is also the boy to win against heavy odds.

The All-Technology Reunion of next June looms. Our Gretchen has been unanimously elected Chairman of the Ladies Committee, after having served for two years as Assistant of the Technology Women's Association. Remembering how much she did for the success of our Ten Year Reunion, we can guarantee results.



1918 Continued

A special class luncheon, similar to what we had at the last All-Technology Reunion is being considered. More about that anon. Meanwhile budget your pennies, forget the stock market, and plan to be there. In spite of rumors of snobishness, engineers are really very sociable after all. The year I rowed on the crew, for example, I knew every man in the boat except one or two who sat way down in the stern.

The mills of the gods sometimes grind Cupid's arrows slowly, but they grind exceedingly sharp just the same. Here, then, comes the inevitable closing crescendo which always, always, finishes off our dispatches. Cards have been sent out announcing the engagement of Miss Dorothy E. Smith to Harold V. Sturtevant, formerly of Lynn, Mass., but now a member of the firm of Anthracite Machinery Company of Scranton, Penna. Miss Smith was graduated from Goucher College, Baltimore, and is teaching in the Wilkes-Barre High School. — F. ALEXANDER MAGOUN, *Secretary*, Room 5-328, M. I. T., Cambridge, Mass. GRETCHEN A. PALMER, *Assistant Secretary*, 51 Houston Avenue, Milton, Mass.

## 1919

An All-Technology Reunion is to be held in Boston and Cambridge on Friday, June 6, and Saturday, June 7. It is to come during the elaborate Tercentenary Celebration of Boston and will enable '19 men to visit the Institute at an opportune time and become familiar with the expansion that has taken place since the unsettled period of 1918 and 1919.

Those, who may wish to get in touch with Jimmy Reis of Course III, should address him at 316 North New Hampshire Avenue, Los Angeles, Calif. It has occurred to us that there are enough '19 men in that vicinity to arrange for periodic get-togethers. The men in the vicinity of Boston and New York meet in this way and find that it is an excellent way to keep in touch with classmates. We suggest that some '19 man in each large center make himself responsible for starting such meetings. We will be glad to lend any assistance that we can. — Ervin Kenison of Course VI has changed his address to 20 Irving Place, New York City.

Schools of higher education have greatly expended their sphere of usefulness in the last few years and we find a number of '19 men have taken advantage of the opportunities thus offered. George Paterson completed an evening course in business administration and received a Master's degree from New York University. Don Way is taking a short course in astronomy at Columbia University. We know of others, too, who are doing the same thing and the funny thing is that they like it and recommend it to others.

We know of two '19 men who are members of a bowling team but their scores are so poor that we will not name them. It is good to know, though, that the Class can boast of one bowler, capable of winning a prize at least. Laurence Gillett took first prize at a competition held in

connection with the activities of The Technology Club of Cincinnati. Let me hear from the rest of you bowlers.

Those who read Donald Stockbarger's articles that have appeared at times in Technology publications will be pleased at The Review's publication of another article entitled "Adventures in Radiation," which appeared in the February issue. — WILFRED O. LANGILLE, *Secretary*, 144 Acme Street, Elizabeth, N. J.

## 1920

The Annual Dinner of the Alumni, which was held at Walker in January, found more '20 men in attendance than has been the case in recent years. The following were among those present: Al Burke, Ken Clark, Phil Waite, Scott Carpenter, Blackmer, Demarest, McGill, Fraser, West, and Huckins.

I recently received the glad news that Buck Clark had become a father. Buck, Jr., at the time these notes reach the light, will be several weeks old. — From far off Seattle I received a most welcome letter from John Chester Wilson of Course XIV fame. Woodie is with the Pacific Telephone System, is married but has no children. From him I learned that Willie Zimmerman still resides in Portland, Ore., but I have no report as to his activities.

The date of the big Reunion is now definitely set at June 7 and 8, which is the Saturday and Sunday immediately following the All-Technology Reunion, thereby providing no excuse whatsoever for non-attendance. The Reunion Committee is earnestly at work and no doubt soon you will receive important announcements relative to this great event. — HAROLD BUGBEE, *Secretary*, 9 Chandler Road, West Medford, Mass.

## 1921

What with Whalen's latest moves and the Rothstein case crowding Professor Tubby Rogers out of the local papers, we are forced to postpone the promised installment this month and plunge right into the notes, to the evident satisfaction of The Review Editors, whose Eighteenth Amendment is on the subject of verbosity. Parenthetically, however, let it be noted that the continued scarcity of letters from the Class is keeping our bewhiskered sleuth busy.

We wish to thank M. K. Burckett VI for his holiday greeting card. We hope Max will send us a note with some news and his address to prevent our further embarrassment at not being able to return his good wishes.

The Class of '21 is represented by six men at the Bell Telephone Laboratories in New York City: W. W. Brown II, equipment development; J. A. Mahoney X, equipment development; E. W. Olcott VI, systems development; K. F. Rodgers VI, apparatus development; R. E. Waterman X chemical laboratory; and your Asec in sound picture development.

D. B. McGuire VI is junior assistant electrical engineer with Charles H. Tenney and Company in Boston. Don makes his home in Melrose. — L. J. Purnell VI

is an electrical designer with the Pacific Gas and Electric Company of San Francisco. — J. P. Putnam II is with the Wireless Specialty Apparatus Company at 76 Atherton Street, Jamaica Plain, Mass. — J. A. Scott VI-A is with the General Electric Company at Schenectady, N. Y. — R. M. Shaw VI-A is efficiency engineer for the United States Cast Iron Pipe and Foundry Company in Burlington, N. J. Rufe is also the editor of the company's house organ. — G. W. Spaulding VI is assistant chief of tests for the Pennsylvania Water and Power Company at Holtwood, Penna. — J. B. Spratley VI is an engineering assistant with the Chesapeake and Potomac Telephone Company in Washington, D. C. — A. L. Wellford, Jr. VI is division manager of the Appalachian Electric Power Company, Pulaski, Va. — RAYMOND A. ST. LAURENT, *Secretary*, Rogers Paper Manufacturing Company, South Manchester, Conn. CAROLE A. CLARKE, *Assistant Secretary*, Bell Telephone Laboratories, Inc., 463 West Street, New York, N. Y.

## 1922

Weddings and engagements seem to form the bulk of the news for this month. Let's begin with the engagements. The first is the engagement of Irwin B. Cassidy to Miss Joyce Lee Ganzel of Westfield, N. J. She was graduated from the Emma Willard School in Troy, N. Y., and from Wellesley College. We offer our best wishes.

Another engagement of interest is that of Edwin J. Purcell to Miss Annette Marie Villari of New Rochelle, N. Y. Miss Villari attended the Blessed Sacrament Academy in New York City. Ed is now doing research work in mathematics at the University of Colorado. The wedding is planned for June. Our congratulations to them both.

A third engagement is that of Miss Elizabeth Adams of Worcester, Mass., to Daniel J. Reed of Clinton. Miss Adams was graduated from Framingham Normal School in 1928 and is now a member of the faculty of the junior high school of Fitzwilliam, N. H. Dan is now divisional superintendent of the Wickwire Spencer Corporation in Clinton. No date for the wedding has been announced.

There are more weddings. Fritz Jules Roethlisberger was married on November 27 to Miss Margaret Dixon of Framingham. The wedding took place in Cambridge, and they will live in Framingham Center. The bride was graduated from Skidmore in 1928.

The wedding of Robert Prescott and Miss Adele Byrne took place on December 7 at the home of the bride who was graduated from Miss Beard's School in East Orange and from the University of Chicago.

Webster Kimball Ramsey of Watertown, Mass., was married to Miss Chrysell O. Swift of Worcester on November 7. The bride is a graduate of the Emma Willard School of Troy, N. Y.

The last wedding on the list is that of Miss Sara Buck Crawford to Charles Webster Maschal at Westport, Conn., on October 18. The couple went to Bermuda

1922 Continued

for a trip and then returned to reside at 23 Fairfield Avenue, South Norwalk, Conn. The bride was graduated from Hillside School in Norwalk and Connecticut College for Women.

To all of these, engaged or wedded, we extend our best wishes and express the hope that some of these will find time to send in a few notes to the Secretary about their plans and their jobs.

The last clipping to reach the hands of the Secretary was a highly garbled account of an article written for *The Youth's Companion* by Dr. Eric Hodgins, actually our former Secretary. The doctor title is purely complimentary. The article is in part a prophecy for the future automobiles, with the front wheel drive listed as an important factor. Since the article comes from the Denison, Texas, *Herald* and is dated November 12, we shall give Dr. Hodgins no further publicity. — RAYMOND C. RUNDLETT, Secretary, Daniel Low and Company, Salem, Mass.

## 1923

We are sorry to have been unable to provide any notes for last month but we will try to make up for the deficiency this month. A number of letters have come in and gleanings from other sources have been fairly profitable. We were very glad to receive the following letter from Ollie Hooper who has forsaken New York for healthier climes. He writes: "The Review arrived today to remind me that I am a Technology man and should send a word about myself. About the middle of August I came to Reading, Penna., to work under Mr. Allen W. Reid who is hydraulic engineer for W. S. Barstow and Company, Inc. The company used to do the engineering for the General Gas and Electric Company and since they have been taken over by the Associated Gas and Electric, the company has more work than ever. Reid and myself are the hydraulic department, and we are busy, to say the least. It is a great relief to leave New York City and come to a smaller city."

Elmer Sanborn is around these parts more or less these days. He sold out his trucking business in which he has been engaged for the past year. He is now on sales engineering for Johns-Manville, covering territory between Providence and Boston. If you have any insulation problems get in touch with Elmer.

Clarence McIntire never was able to quit the running game. He is now instructor and track coach for Northeastern University and his name was much in evidence on the sporting page during the last cross country season. We were sorry to learn of the death of his father recently and send him our sympathy. — Cy Rice is now located in New York and while home Christmas, he mentioned seeing Walter Zapolski, Harry Raphael, and Chuck Wieler. — I had lunch with Bert McKittrick the other day. Mac is still the prosperous Lowell business man, running in addition to his mill supplies and hardware businesses, a textile machinery exchange.

We had heard unofficially that Hap Hazard was married but it is only at this belated date the details are known. The event took place last June in Cleveland, Ohio. His bride was Miss Helen Davies of that city. We learned that Joseph Preston was also married a short time ago to Miss Alice E. Morrissey of Springfield. After the ceremony, the couple left for Australia where Joe has a job as chemical engineer for A. G. Spaulding and Brother, in Melbourne. — We also learn that Jules Werner is about to be married to Miss Therese B. Neil of New York. Congratulations, Jules. — We are informed by a clipping from an Edgartown, Mass., paper that Fred Chirgwin was married last July to Miss Marie Kinney of New York. Fred is working in New York City. — Another wedding which took place last summer and which we didn't hear about until just recently is that of Norman Weiss and Miss Mary S. Duffus. They were married at Parrall, Mexico, where Norman is located.

A very newsy and welcome letter was received from Howard Dexter the other day. Dex is still located in Pittsburgh. Here is a portion of his letter: "My father was out in Dayton recently and called on Freddy Kinch and his wife who live there. Freddy is still with Frigidaire. I saw Bill Vincinus last spring when he was here to the Technology Clubs meeting. He too, I believe, is located in Ohio. Otherwise I haven't seen any '23 men in a while of a long time. Every once in a while I get a word about Frosty Harmon, who is with the National Tube out in California, from one of the fellows here with the same firm. It seems sort of queer, too, that there aren't more '23 men in Pittsburgh. When I came out here right after leaving school there were eight or nine of us. Well, we all left town and I guess I am about the only one of the gang who returned. I believe Johnny Church and his wife live here, but I never see him. And I did see J. H. Cox who is with Westinghouse Company at one of the Technology Club meetings this year."

"As for myself, after trying to keep a job in Florida with the banks closing in 1927, I came back to work with the Light Company as a technical representative in the sales engineering division of the sales and service department, and I'm still at it. The work consists principally of supervising the installation of customer's substations and is very varied and interesting. Incidentally, my new business address is Duquesne Light Company, 435 Sixth Avenue, Pittsburgh, Penna. I have done a little coaching in track since I've been here. The coach at Carnegie usually asks me to come out and work with the weight men in the spring. I still get a thrill playing with the hammer. The University of Pittsburgh turns out some good weight men but Carnegie Tech is weak in that branch of the sport. They work the boys too hard in the spring football practice and the season is short here." — ROBERT E. HENDRIE, Secretary, 91 Walnut Street, Braintree, Mass. HORATIO L. BOND, Assistant Secretary, 37 Concord Avenue, Cambridge, Mass.

## COURSE VI

The electricals proved what good chemists they are by turning out to the New York Annual Dinner and listening to the talk on photography, old, present, and prospective, by Dr. Mees of the Kodak Laboratory. The dinner was tempting and we didn't resist. Soporific tendencies that might otherwise have got us in disrepute were routed by the movies, stills (make sure you get me), and other exhibits by the Doctor. Talking movies, I should say, with Dr. Mees as pick-up, amplifier, and loudspeaker.

Well, who should join us at the '23 table but J. K. Clapp himself. J. K. was en route to Washington, probably having something up his sleeve for brother engineer Hoover. He did us the honor of laying over for the evening and bringing closeups from the Institute. Jim isn't teaching at the Institute any more, however; he has been with General Radio for some time.

The Course VI men who turned out were Jim Clapp, Tom Rounds, Dave Kaufman, and myself. Jim stuck to electricity. Tom fits SKF roller bearings on everything from railroad cars to sewing machine motors. Dave set himself up here in the city as oil heating engineer. I haven't needed him much so far but guess it's coming. I am still writing instruction books for Navy fire control instruments. But we all tell everybody we got through the toughest course at the Institute.

Here is an interesting letter from Roger Evans that I am going to pass along to you: "A silence of some six and a half years should be difficult for any one to break, but after reading the monthly appeal of the Class Secretary in *The Review*, I have finally come to the conclusion that I should contribute something toward the Class Notes. Perhaps it is the desire to see my name in print or the coming of the new year urges me to break forth in the absence of New Year's resolutions. It makes little difference what the motive is, the result is apparent. Since leaving school, I have been with the Public Service in a variety of capacities ranging from meter tester to line foreman and have spent some time in most of the districts around the state. Most of the time I have been in the southern division and just at present am located in Princeton taking care of distribution and transmission in a territory about fifteen miles square in which are included a dozen small communities in addition to Princeton. The work is interesting and instructive and with plenty of variety to keep it from being monotonous. The only objection is that it is a twenty-four hour a day job and the telephone must necessarily be a constant companion. Sundays and holidays do not exist except on rare occasions, but that is the lot of the utility worker. If you don't like it, get a job selling bonds, or playing the stock market."

"A recent occurrence of importance took place on October 12, when I took unto myself a wife. I won't bore you



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with all the intimate details because I don't remember them all myself. Anyhow, what do you care what the bride wore? Suffice it to say that the new Mrs. Evans was Miss Alma A. Schwartz of Hazleton, Penna. She is a graduate of Wilson College with the Class of '26, and for the past three years has been a member of the faculty of Junior High School, Number 3, in Trenton, N. J. Fred Stevens, II, was best man. He did his part nobly, including the placing of plenty of rice and confetti in strategic locations where it would shower down at the least movement and at the most opportune time, returning the compliment I paid him on a similar occasion in his honor, I suppose, although I believe he must have had previous experience, because he couldn't learn all the tricks he knows from one encounter with matrimony. To date the experiment has proved very satisfactory and I am wondering why I didn't take the plunge sooner.

"Being located off the beaten track, I seldom see any of the Class, although there are plenty of representatives with the Public Service in the Newark office and northern parts of the state. Occasionally, one of them drifts in. I saw Ed Thimme in Atlantic City last June, and his responsibilities do not seem to have affected him seriously. Art Carvill XV stops in once in a while. He and I started with the Public Service together, but matrimonially, he is ahead of me by about five years and a couple of additions to the family. Anyone who chances this way will be more than welcome for a protracted bull session with a good meal, radio from an electric socket, and a bottle of gin or what have you on the pantry shelf, as additional inducements." — ALBERT J. PYLE, *Secretary*, 240 East 19th Street, New York, N. Y.

## 1924

We wish to acknowledge with thanks the receipt of checks for the Alumni Athletic Fund from the men listed below. This list was made up on January 19. There is still time for those who wish to get in on this to send in checks to Bill Correale at 840 Mott Avenue, New York. The reason for this is that we have extended the duration of this drive, and we do it because we will not be having another one for five years. We would like very much to hear from more of you. The list follows: Ambach, Billard, Bilton, R. N. Black, E. C. Brown, Bruce, Bruggmann, E. Carlson, Castle, Minnie B. Chapman, Chappel, Christoph, Correale, J. S. Davey, G. P. Davis, H. S. Davis, H. G. Donovan, W. F. Donovan, W. A. Dunham, Dunlaevy, J. E. Frazier, Ginsburg, Greaves, Gruhr, Hamilton, Hecht, Hereford, Herrick, G. R. Holt, Hungerford, R. Johnson, Lassiter, G. L. Lindsay, H. J. McMillan, G. B. MacPherson, Mares, Massey, P. C. Maynard, D. E. Moore, V. J. Moyes, Peirce, F. H. Perrin, F. N. Perry, C. M. Phelps, Plant, L. F. Porter, C. F. Reed, W. H. Robinson, Rosenwald, W. L. Rowe, H. G. Shea, Shore, C. A. Thomas, Wayne, and Wertheimer. We hope we have omitted no one.

Our congratulations are extended to Elmer Bruggmann, who has been appointed Assistant Professor of Chemical Engineering and Assistant Director of the Research Laboratory at the Institute. I have heard indirectly that Herman Thoenen is now experimental research engineer of the tractor works of the International Harvester Company. His address is 2600 West 31st Boulevard, Chicago, and his reaction to the town of Chicago is not at all favorable.

No clang of cowbell or blare of brass accompanied the faithful of '24 as they trod majestically the quarried floor of Walker Memorial to their appointed place. Not as the conqueror comes they, the true-hearted, came. No familiar cheer volleyed from their decimated ranks, ever the first to rise on similar occasions. Having seated themselves with the other 440 present at the Annual Alumni Dinner, they proceeded to absorb excellent food, pithy instruction, valuable knowledge, and optical and oral entertainment of high degree. For the dinner this year, back on Institute ground once more, was thoroughly enjoyable and as an appetizer for the coming June All-Technology Reunion it left nothing to be desired. Bill Ridge was there; so were King Flavin, Ginsy Ginsberg, Al Franks, Sanford Lyons, Ray Lehrer, Duke Marrs, Charlie Herrstrom, and John Holden. We are sure that they felt well repaid for their coming. — HAROLD G. DONOVAN, *General Secretary*, 139 Girard Avenue, Hartford, Conn.

## 1925

The Class will be grieved to hear of the death of Robert Camm Jackson at his home in Tazewell, Va., on December 28, after an illness of two years. When he was in Technology he was a member of Alpha Chi Sigma and took part in three Tech Shows. He left the Institute for the Aluminum Company of America in Badin, N. C., and then moved to Danville, Va. He received an appointment to Dr. Lewis's Research Laboratory at the Institute where he remained until he went with the Barbasol people to open a research laboratory for them in Indianapolis. He leaves a widow, Mrs. Dorothy Meserve Jackson and two sons, Robert Camm Jackson, and Edward Meserve Jackson.

The engagement of Miss Evelyn Sears Taylor and F. Leroy Foster has been announced. Miss Taylor is a graduate of the Children's Hospital of Boston, and is now with the Community Health Association of Boston.

Among other Christmas cards, we received one from Arnie Marshall with a decoration and wish more suitable to a private showing. The "Bluebird of Happiness" looked more like a cross between a buzzard and a bluejay, with some traces of the oozlefinch, but we appreciated the spirit just the same. Another card from Fred Sommer conveyed his best wishes to the Class. — Malcolm MacDuffie is now a father. As you remember, he is teaching in his father's school in Springfield, Mass.

Start making your plans for our Reunion in June! You will hear the details from the Reunion Committee. — FRANK W. PRESTON, *General Secretary*, West Virginia Pulp and Paper Company, Piedmont, W. Va.

## COURSE II

Your Secretary was well blessed at Christmas, having received a number of cards from the boys. It is always a pleasure to receive even a two cent stamp, and he is in hopes that all have made resolutions to write to the Secretary during the year 1930. I might mention a very beautiful card which was received from Toni Lauria postmarked Rio de Janeiro, Brazil. Methinks Toni is emulating the proverbial grasshopper as my last information found him cavorting among the señoritas of Havana.

Hung Fung Lee does the job in fine style. Not being content with a lovely greeting card in which the characters are in Chinese script but perfectly decipherable to one of such intellectual attainments as your Secretary, he conveyed the message of merry Christmas. You will all be interested to know that our own Hungus is a man of diversified industry. Says he, "I haven't much to say except that I have just as much work now as when I was at the Institute. I am working on a railroad (Yueh Han) as an engineer in charge of car repairing. It's a very interesting job. Furthermore, I teach school a few hours each week and also find time to manage a sewing machine office." Hungus goes on to state that additional details are forthcoming. If there are any of you who can beat that record, just notify the Secretary.

Wilder Perkins writes from Passaic that he is in charge of time study work at the Manhattan Rubber Company, and I presume that this is a twenty-four hour job since the arrival of Stanley Harrold is announced on August 22 last. Undoubtedly in the wee small hours of the morning friend Stanley offers ample opportunity for time study.

Here's hoping that all of you give early attention to that New Year's resolution. Remember the dictum, no notes, no news, and how many are already contemplating the big Reunion in June. — NELSON D. MALONE, *Secretary*, 184 High Street, Boston, Mass.

## COURSE V

Gather around, fellow snobs, for a period of good old-fashioned gossip. During the Christmas holidays, your Secretary journeyed to Boston and spent some happy hours at the Institute. This was during that terrific storm that hit the New England states about that time and I beg to report that the trip from Building Two across to Walker is just as hazardous as ever during wet weather.

It was learned on good authority that the mystery man of Course V was sighted about the Chemistry Department some two months ago. I'm referring to John Chrystal, of course, and wish to state at this time that it is my solemn belief that John is the reincarnation of one of those



1925 Continued

medieval monsters who appeared to the frightened populace once every St. Swithin's day, then to disappear for a year.

Each year finds the number of Course V men doing graduate work slowly diminishing. There are four at this writing; Lane, Harrington, Patton, and Ramsay. Lane started work on his advanced degree last fall, forsaking the sacred precincts of Course V for the noisier and more entertaining purlieus surrounding the office of Professor W. K. Lewis. Val Harrington has withdrawn from the instructing staff and is devoting all his time to laboratory and class work and is hot after a doctorate. Patton, I found down in the Heat Laboratory building a house, of all things, or rather, the side of a house to be tested for its heat retaining properties. I lingered a while to see if I could make him hit his thumb with the hammer and then wandered on to the really dangerous part of my mission.

It is a matter of great concern when duty calls on me to ferret out Pat Ramsay from the maze of lathes, turrets, testing materials machines and so on that abound in his end of the building, not to mention that Venetian canal that threads its way around the basement floor. Pat knocked big chips out of the welkin when he spotted me and we had a grand reunion over a couple of smokes. The railroad engineering is still as interesting as ever, he says.

Short items for this month are as follows: Freddie Walker achieved his doctorate, is married, and is now living in Staten Island and working in Perth Amboy. — Ted Coyle is making out extremely well with his new job with a chromium works. — John Robertson was at the Institute recently and is now in New Orleans, La.

This department extends its best wishes for a prosperous 1930 and the hope is expressed that you men will prove a little more prolific with your letters from now on. And don't forget that personal calls are always welcomed at the address below. — GERALD MILOT, *Secretary*, 4306 45th Street, Long Island City, N. Y.

## 1926

The following attended the Alumni Dinner on January 18: W. F. Rooney, Miss Mary Soroka, Robert W. Richardson, C. M. Pickett, Jr., Albert C. Lamoureux, W. P. Hinckley, John H. Harding, William H. Graves, Jr., Robert T. Dawes, Frank N. Cranton, Miss Philomena Caputa, Thomas H. Barry, Morton P. Woodason, and your Secretary.

The Boston group is planning to have a Class Dinner on March 6 at a place as yet undecided. Those who are interested in attending will get more specific details from Bill Rooney, whose address is the Edison Electric Illuminating Company, 39 Boylston Street, Boston, Mass., or from your Secretary. — JAMES R. KILLIAN, JR., *General Secretary*, Room 11-203, M. I. T., Cambridge, Mass.

## COURSE II

G. M. McNeil recently crashed through with a letter and later a card narrating some of his travels for the Fac-

tory Mutual and the occasional contacts he has had with classmates. Mac seems to have done very well at covering the country and I think Kipling will soon have to look to his laurels for his romantic adventures. To confirm his experiences and conclusions Mac wants to have a report on the researches of Doug Walker and John Pardo since leaving the Institute, both of whom have enveloped themselves in a mysterious silence.

R. G. Spear is reported as assistant manager of the General Motors in Detroit. It sounds like a pretty big order. — The grapevine telegraph discloses Don Chase far from his responsibilities as Kelly-Springfield chief engineer of research in Cumberland, disporting himself in Cleveland with one of those types of femininity supposed to be preferred by gentlemen. He is getting to be a regular traveling man, they say.

Some of the other Technology tire-makers are alleged to be going strong with Goodyear. The story is that John Oakley builds the tires and Larry Randall cuts the tread patterns on them. — Red Elmendorf has settled in Cleveland where he prospers as office manager for the National Carbonyl Company. — I saw Ced. Valentine at the Alumni Banquet in New York a couple of months ago and learned that he is still sponsoring the Atlantic Coast Fisheries.

I surely hope that a few other members of the Course will be inspired by McNeil's example and let me in on their doings and hearings. I like to see blank spaces in our Class Notes less than any one. — JOHN B. JACOB, *Secretary*, 159 North Mountain Avenue, Montclair, N. J.

## COURSE VI-A

It seems that our noble Class Secretary was laying for one of the Course VI-A boys to fill up a little space concerning their actions. Having written a few comments for the last issue I found myself in possession of a job, an unpaid one at that.

As it always pays to make a good impression at first, I sent out a card to get first-hand information from the members of our Course. There has been a fair response as far as the questions go, but the letters received telling of personal doings have been very few, so far. As I know that you won't care to hear my droolings over my personal happenings, I therefore entreat more of you to go to your closet of the past and see if there are any items of interest that can be brought to light without disturbing any skeletons.

In the last issue we told of the doings of some of the boys. But as the information came from hearsay and now I have a more reliable source from the above-mentioned cards, I think it wise to repeat. So here goes with an alphabetical arrangement.

Meredith Brewster, single, is working for the General Electric here in New York as a "specialist" in the field of arc welding. His knowledge is growing rapidly but it seems he still has to learn that newly welded pieces are apt to be warm.

## THE TECHNOLOGY REVIEW

No harm done, only a reminder lasting the rest of the day, informing him that it just isn't done.

Ralph Collessner, never married, is styled as an electrical designer in the railway equipment engineering department of the General Electric at Erie, Penna. Ralph, are you at all responsible for any of the equipment in the New York subways?

J. O. Crawford, still cautious, calls himself "Jack-of-all-trades" in the transmission engineering department of the Bell Telephone of Pennsylvania and is located in Philadelphia. Maybe his parents made a mistake in naming him James instead of Jack, as we feel that he should be good at this job. — Maurice Davidson was married on January 5, 1929, and is now the proud daddy of a little girl. He gets our congratulations. He is classified as an engineering assistant and works on the long distance cables and repeater layouts for the Bell Company. He is stationed at their Harrisburg office.

Joe Fannon, still the same old facetious Joe, reports his position occupied as "horizontal, inclined, and vertical," mostly horizontal, I guess. As to whether he is married or not, I don't wish to be quoted, with only his postal to go by. He is, however, an electrical designer for Stone and Webster and still remains in Boston, his home town.

Arthur Fuller, as we all know, married way back in 1925 and has only increased his family by one daughter since that time. A. C. is in the planning department of the Central Hudson Gas and Electric Corporation and is located in Poughkeepsie. It's tough to be married and live there. Some of our bachelor classmates might do well to visit him during the winter months.

Frank Grueter is not yet married and I can't get a definite explanation of what that remark means. He is now located here in New York with the N. E. L. A., as a research engineer. He investigates, we understand, stray fields around telephone lines, but we are wondering just how far afield he strays during his travels.

Ralph Hammer was married on November 6, 1928. He is connected with the General Electric Company and is located in their Patent Department in Washington. He reports that he is studying to be a patent lawyer. It seems that the Institute didn't drive all his ambition away. — Earle Lissner is married and the father of a baby girl. He is an industrial fuel engineer for the Public Service Electric and Gas Company and he is located in Jersey City. He states that at present he tries to induce people to use gas for plant fuel.

As considerable space has already been consumed, we shall keep the rest until next month. It is hoped that more replies will be received in the meantime. Anyone, not receiving a card, must not feel slighted because our mailing list is no better than that of Sir Boss, which means many changes can easily have occurred without the proper adjustments. Let's hear from every one. — BENJAMIN P. RICHARDSON, JR., *Secretary*, 29 South Second Avenue, Mount Vernon, N. Y.

## COURSE XV

The score is a tie, the bachelors and the Benedicks end in a draw of 27 to 27! Let's hear from the rest of you fellows and see how the contest stands then. First among our married folk are those who have raised a family. John Kimberly, who is assistant chief mill manager for the Kimberly Clark Corporation, was married to Miss Elizabeth Essick in the fall of 1927. They now have a daughter Josephine, born August 30, 1928. — Frank Cramton is truck tire sales manager in the Boston office of the Firestone Tire and Rubber Company. He was married in November, 1927, to Miss Edith Crossland. They have a daughter Jean. — Allen G. Clarke is the proud father of Allen G. Clarke, Jr., who was born last summer. Clarke married Miss Henrietta Le Stage during the summer of 1928. He is working for William H. Coburn and Company, Boston. — L. B. C. Colt, Jr., keeps his dad, L. B. C. Colt, busy these days keeping him amused. Colt was married in the summer of 1928 to Miss Josephine Jewell. He is financial editor with the Cambridge Associates. — Guy Frisbie, who married Miss Katherine Menzie in June, 1928, has now moved east again from the West Coast. They have a daughter Patricia. Guy is still with the Hobart Manufacturing Company and is now located in Troy, Ohio. Guy claims he moved east to be ready for the Reunion in June. — J. E. Hinebaugh who is a technical assistant with the Frigidaire Corporation at Dayton, Ohio, was married to Miss Nina L. Purney in July, 1928. They now have a little son, John Purney.

Charlie Bianchi, who was married to Miss Margaret MacLoren shortly after leaving school, is now in business for himself — the Belle Chemical Company. Charlie has a little daughter, Sally Ann. — George S. Killiam, who is with the Boston Edison Company, recently lost his wife. His two little daughters are looking after him now. — Charlie Poore, who is married to Miss Marjorie Horne, is assistant research director for William Filene's Sons Company, Boston. — D. K. Huster married Miss Mary Talcott in October, 1927. Duke is assistant head of curtain goods at the Walpole, Mass., plant of the Kendall Company. — Harry Howard, who married Miss Louise Hill in the fall of 1928, is also in Walpole, Mass., with the Plimpton Press. — George Wingate is with the statistical department of the Eastman Kodak Company in Rochester. He was married last fall to Miss Helen Hardy. — Robert A. Richardson is with E. B. Badger and Company, Boston and married Miss Margaret Tonning.

Fred Walch was married in Paris last summer to Miss Irmgard Habets-Inden. Fred is the European representative of the Dewey and Almy Chemical Company. He was here in Chicago a short while ago attending the Canners Convention. Early summer will find Fred back in Europe. — Cedric M. Thompson, who is production engineer with the Cambridge Rubber Company was married in October, 1928, to Miss Mildred Cannell. — Samuel J.

Cole is now with Ford, Bacon and Davis, Inc., New York. He was married last spring to Miss Charlotte R. Thomas. — Richard J. Chapin is superintendent of building for Seattle's most prominent department store, Frederick and Nelson. Before going west he married Miss Ida May Bradford.

Cecil C. Ogren, a heating engineer with the Malden and Melrose Gas Light Company, was married to Miss Eneida P. Sanborn last spring. — J. Y. Houghton married Miss Virginia Spear in the spring of 1928. He is practicing patent law with the firm of Emery, Booth, Varney and Holcombe, Washington, D. C. — Thomas R. Montgomery, who is in the production department of the Simplex Wire and Cable Company, Cambridge, is married to Miss Anne Scott Ward. — Nathan Pearlstein is with the Gillette Safety Razor Company. He was married last fall to Miss Deborah Simons. — A. B. Bassett is studying traffic problems with Grevott Brothers, Inc. Al was married to Barbara B. Aldrich last fall. — Lewis P. Buckner is in the statistical department of Hemphill, Noyes and Company, investment bankers, New York. He was married shortly after leaving school to Miss Susanne Small. — Ken Lord, who married Miss Marion White in the fall of 1927, is district manager for the Reliance Electric and Engineering Company with headquarters in Birmingham. Ken claims he hasn't seen a '26 man for over a year, so if you get down his way, be sure and look him up. — J. R. Killian, Jr., was married last summer to Miss Elizabeth Parks. — William C. Coker is resident engineer for the William C. Whitner Company, Inc. Just at present he's on a hydroelectric job at Big City, Va. Bill was married last fall to Miss Louise Barron Williams. — George B. Torrens, who is a heating engineer with Albert B. Franklin, Inc., was recently engaged to Miss Martha C. Warren. — Lawrence Phillbrick is now in business for himself, being owner of the Radio Sales and Service Company of Melrose, Mass.

Al French is sales engineer and director of the French Oil Mill Machinery Company, Piqua, Ohio. — Ernest B. Baldridge is an aeronautical designer for the government at Wright Field, Ohio. — John B. Wright is a sales engineer with the Nash Engineering Company, South Norwalk, Conn. — Richard H. Pough is with the Fulton Iron Works Company at St. Louis. — Leonard F. Lawrence is connected with Sears, Roebuck and Company at their Boston plant.

Eliot K. Grant is assistant claim agent for the New England Tel. and Tel. Company in Boston. — Otto B. Wiessner is assistant sheet mill superintendent for the United States Aluminum Company. Al Entwistle is connected with the same company, being head of the standardization department. — Maurice L. Ash, Jr., is manager of the Chicago office of W. H. and H. D. Betz. — Howard Humphrey is Assistant Treasurer of the firm, Freeland, Wansker, Bates and Lawrence, Inc. — S. W. J. Welch is with E. I. du Pont de Nemours and Company.

George A. Fogg claims to be the office boy for the Vice-President of The Travelers Insurance Company at Hartford. — Donald Dodge is production control manager for the J. M. Carpenter Tap and Die Company in Pawtucket. — Dave Harrison is in charge of commercial sales for the Fairchild Aerial Camera Corporation in New York. — M. Bernard Morgan is assistant chief engineer at the Meadville Plant of the Vicosse Company. — G. H. Spillette is a rate setter for the Miller Rubber Company in Akron, Ohio. — L. F. Remington is a mechanical engineer with the Thomson National Press Company, Inc. — Richard W. Johnson is now senior engineering aid for the Massachusetts Department of Public Works. — Jerry Doolittle is an installation engineer for the Electrical Research Products, Inc. — Don King is assistant to the works manager of the Carbide and Carbon Chemical Corporation. — Donald Cunningham is an industrial engineer with the Hersey Manufacturing Company, South Boston, Mass.

Gus Gostanian is a valuation engineer with Edward J. Cheney, engineer in New York. — Daniel J. Bloomberg is European supervising engineer with the Radio Corporation America Photophone. His headquarters are in London, but just at present he is in Rome, Italy, supervising Italian talkies. — John D. Eldert is a sales engineer with the Machine Parts Corporation of Providence, R. I. — George P. Edwards is assistant to the President of the Bond Manufacturing Corporation of Wilmington, Del. He was in Chicago a short while ago for the Canners Convention.

Well, that's all this time — let's hear from the rest of you fellows. — THORNTON W. OWEN, *Secretary*, 165 North Pine Avenue, Chicago, Ill.

## 1927

Several clippings have come to the attention of the Secretary, mostly weddings. Two engagements also announced will be of interest to the Class. The first is of Miss Harriet Granger Mitchell of Passaic, N. J., to Gilbert G. Emerson. Miss Mitchell is a graduate of Smith College and during her junior year she studied at the Paris Sorbonne with the Smith unit. She is now instructor in French at the Passaic Collegiate School and is President of the Woman's College Club of Passaic. Gil Emerson is a graduate of Hotchkiss School and Yale Sheffield Scientific School as well as Technology. He is now an aeronautical engineer with the Wright Aeronautical Company of Paterson. The wedding will take place next summer.

The second engagement is that of Miss Katharine Wyckoff of Trenton, N. J., to Russell P. Westerhoff of Paterson, N. J. No date has been set for the wedding. Miss Wyckoff attended the Model School, the Lankenau School for Girls in Philadelphia, and the Home Economic Department of the New Jersey College for Women at New Brunswick. Russ took a B.S. and an M.S. from Technology. He is a member of the Sigma Alpha Epsilon



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and the Theta Tau fraternities and is now connected with a well-known firm of consulting engineers in New York.

The announcements are out of the wedding of Lee McCanne to Miss Priscilla Proctor of Wellesley Hills, Mass., on January 11. — The wedding of B. Allison Gillies to Miss Betty Huyler took place on January 18 at Stony Point, Long Island, N. Y. Both are members of the exclusive Long Island Aviation Country Club and Miss Huyler has built up a nation-wide acquaintance because of her participation in air meets since receiving her pilot's license and because of the position she holds with the Curtiss Wright Flying Service as a "flying saleswoman." Gillies is Vice-President of the Loening Company and was the first man to fly a one wheel amphibian plane last summer. At present he is devoting his entire time to the development of new aircraft designs with Mr. Loening.

A third wedding of one of our classmates is that of Miss Elizabeth May Hart of Methuen, Mass., to John Oliver Collins on November 9. Their engagement was announced last May. The couple will live at 819 Canton Street, Elizabeth, N. J. — JOHN D. CRAWFORD, *General Secretary*, 7 Goodwin Place, Boston, Mass.

## COURSE V

Ken Vint sent in an interesting letter. He is in the high explosives operating division of E. I. du Pont de Nemours and Company at Louviers, Douglas County, Colo. The plant is about twenty miles from Denver which Ken visits now and then. He has been at Louviers since the beginning of 1929. Ken states that the best recreation in the vicinity is jack rabbit hunting. He is not yet qualified to have his name listed with those just married.

Joe Brady wrote and said that he visited Joe Burke and had the opportunity to learn something about leather. He is now taking a night course in informal speaking which is similar to the General Study Course in public speaking. Talking and writing well and effectively seem to have a place no matter what type of work is done.

Dave Truax has at last been heard from. He is with the United States Finishing Company evolving better methods for the printing of fabrics. Dave's address is 300 Elmwood Avenue, Providence, R. I.

One other occurrence should be recorded. Jimmy Small, down at Baton Rouge with the Standard Oil Company of Louisiana, stated on the back of his Christmas card that the letter he promised to write would sometime be forthcoming. — EDWARD T. DUNN, *Secretary*, 2014 Baynard Boulevard, Wilmington, Del.

## 1928

This month the '28 Class Notes section is bigger and better than ever. In it you will find much news of interest concerning the lives of classmates whom you haven't seen since June, 1928.

The Class was represented at this year's Annual Dinner of the Alumni Association, which was held in Walker Memorial on the evening of January 18, by classmates Rudy Slayter, Bob Harris, George Buckner, Jim Donovan, Joe Parks, Jim Allen, Gordon Collins, Henry Pratt, Harlan Paige, Bennie Hough, Wally Keyes, Ed Ure, and Ralph Jope. To the aforesaid '28 men belongs credit for putting the class yell on the air in grand style.

Some news flashes have been received for this general notes section during the past month. After thirteen months with the American Steel and Wire Company of Worcester, little Joe Harvey of Course III was transferred to the Wesley Steel Treating Company of Milwaukee. This step brought Joe a lot nearer home (Racine, Wis.) but it is far from being the only big step he has taken recently for we have just learned that on June 18 of last year he was married to Miss Gracia Scott of Galesburg, Ill. Congratulations, old man!

Johnny Reynders was busily working on design work at the Rolls Royce Company in Springfield some months ago when suddenly he was stricken with a malady which caused him to give up his job, leave home, and set out on the high seas. That malady was a severe case of wanderlust which finally got Johnny in its clutches and caused him to seek a job on a coastwise steamer as seaman and first class brass polisher.

The smiling face of Gil Ackerman popped up in Cambridge on January 23. Gil was on a test trip of a new boat on which he had been working. He said that he was still trying to make naval steam turbines behave and looked as though his work were greatly agreeing with him.

A business trip to Cleveland enabled me to see Bus Ruch and his wife in Akron, Ohio, over a recent week-end. Bus is working on the new Goodyear Zeppelins and in off hours directing the activities of Akron's crack Boy Scout Troop. — GEORGE I. CHATFIELD, *General Secretary*, Room 11-203, M. I. T., Cambridge, Mass.

## COURSE I

A letter from Campobasso enables us to keep above water this month. Johnny writes from his home at 44 Decatur Street, Arlington, Mass. Shortly after graduation he started working with Metcalf and Eddy, and is still with that firm, contrary to the habits of what he calls the "vagabonds of '28 who have a new job every week or so." Continuing: "For the year ending late in September I was in Bloomfield, N. J., on trunk sewer connection. I am now in the Boston office and am living at home which is sometimes a help. After being only forty minutes from Times Square for one whole year, it grieves me to read that the whole gang is now in the big city. I arrived in Boston last September just in time to spend a week-end with Norm Ballou who sailed for England the following Tuesday to study international law at Oxford. A Christmas card tells me he is at present vacationing in Switzerland."

## THE TECHNOLOGY REVIEW

Only two other changes have come to my attention in the past month. Weinberg decided that it was no longer any advantage to hold his job with Tishman's so he quit about the middle of January. As far as I know he is now merely vacationing. A card from Shipley, now a lieutenant in the Reserve Corps, indicates that he is located at Mitchell Field, Long Island. I hope to see Ship in a week or so and learn at first hand of his flying experiences. — GEORGE P. PALO, *Secretary*, 143 East 39th Street, New York, N. Y.

## COURSE VI

Your Secretary has been waiting hopefully for answers to the missives he penned to various members of Course VI last spring and summer with the hope that in that way he could gather information about some of the long lost Course VI men, whose professional and social vicissitudes have not been chronicled in these columns to date. Apparently, however, the addresses we have are obsolete, for a goodly number have gone unanswered. If any of you can find time to dash off a few words pertaining to your peregrinations we shall appreciate it tremendously.

Vic Decorte stopped off at Boston several months ago when he was being transferred to New York City for International Tel. and Tel. Company. We talked to Vic over the telephone and discussed the quality of Canadian beer (which Vic has had ample opportunity to sample since graduation) and other subjects dear to the hearts of Technology men. Vic's energies at present are devoted to research, a field, it seems to us, for which his capabilities are ideally adapted.

Hal Turner is engaged in the task of convincing the electrical industry that an aluminum bus-bar is to be preferred to the more conventional and better known garden variety. He is working for the Aluminum Company of America in the sales service department and proselytizing the central station and manufacturing industries to the use of the above mentioned aluminum conductor.

A clipping from the Boston *Evening Transcript* of January 12 states that: "Mr. and Mrs. Erving F. Lowe of 22 Atlantic Avenue, Fitchburg, Mass., announce the engagement of their daughter Miss Marjorie Lowe to Waldemar I. Bendz." Congratulations, Bill! Let's hear from you when the wedding bells peal so we will know when to add your name to the roster of the Benedicks. Bill, incidentally, was at the Institute with the Westinghouse contingent interviewing promising engineering talent in the senior class during the week of January 6. Bill is permanently located in control engineering with Westinghouse and is living in Fitchburg.

We are indebted to Bill for the information that Stewart Currier joined the ranks of the Benedicks about a year ago. Mrs. Currier was formerly Miss Al Woodward of Gardner, Maine. Congratulations, Stew, even if they are somewhat belated, and best wishes from the Class.

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Jim Kay is located permanently at the Springfield plant of Westinghouse. Ernie Knight and Jim Ryan have also been in Springfield but only temporarily.

Dick Proctor is engaged in design on Diesel-electric railway equipment with Westinghouse. Dick and Johnny Carvalho are rooming together in Wilkesburg, Penna., and working in East Pittsburgh. Johnny is another Course VI man for whom Dan Cupid has been gunning and we expect to relate the departure of another from the rapidly thinning ranks of the bachelors before many more moons have elapsed. The details will be announced in a future issue.

Red Walsh and Bardwell, embryo public utility executives with the Mohawk-Hudson Power Company, paid a flying visit to the New York Edison Course VI apartment at 107 West 84th Street in December. Bill Murphy, Bob Platfield, and Freddy O'Brien sojourn at said apartment. It is becoming, we understand, quite a rendezvous for the élite.

And so the news for Course VI ends. If any of you encounter a choice bit of scandal or news of engagements, marriages, births, promotions, or transfers affecting any of your fellow Course men, send it to the Secretary. Let's have some more for the next issue. — PETER H. KIRWIN, *Secretary*, 7 Grosvenor Place, Boston, Mass.

## COURSE VI-A

Keeping track of all the members of the Course in this Class works itself into quite a job. Due to the fact, however, that they have somewhat located themselves into groups, it simplifies matters a great deal. In referring to the groups, I speak of the two that have their centers in and around New York City. Each group has a Secretary who makes it his business to keep in touch with the wandering flock. Those that were formerly known as the telephone option men have as their Secretary, Cole Armstrong, and those that were the General Electric option men have the ill luck to have me as Secretary. I regret very much that I have been unable to get in touch with Armie before writing this but I hope that the next batch of news will include the group under his wing.

Armstrong himself is located at 140 West Street in the traffic department of the New York Telephone Company. He's not exactly doing engineering work, but he is frequently seen commuting to New Jersey and reading books on deep electrical theory *en route*.

Otto Brune is still keeping up with the engineers. He hasn't a lot of fish stories to tell but he is doing some excellent work on A. C. networks. A visit to the Institute will find him working diligently in the Research Laboratory. After hours he and his wife spend happy times at 18 Lexington Avenue, Cambridge, Mass. If you want to get in touch with him that's the address.

The population of Phoenixville has been increased by one. Harold E. Curtis has gone down there for the development and research department of the American

Tel. and Tel. Company to do some experimental work. Hal says it's not the liveliest place in the world but it has one movie and he can drive the company car. If you happen to be going through the town drive very slowly and you'll see 402 Gay Street. That's where he is stopping. Drop in and he'll be awfully glad to see you. Phoenixville is in Pennsylvania.

Chick Lyons surely has strayed from the fold. The long lines department of the American Tel. and Tel. Company has sent him way out to Syracuse, N. Y. Frequently we get calls from Chick telling us all about the doings at Syracuse and just about the height of the conversation the wires melt and we have to wait for another call. From all I can gather, it isn't any punishment to be sent to Syracuse. Chick is staying at 729 Irving Street, when at home.

Ferdie Myers went from one extreme to another. He shifted from Boston to Wenatchee, Wash. And all our suspicions were confirmed when he went to Baltimore first. Yes, he was married there and took his bride with him. I haven't heard from Ferdie but I do know he is with Stone and Webster. I don't even know where Wenatchee is but probably the Post Office does and it will deliver a letter to him if you add 527 North Chelan Avenue to the address.

Frank Sweeney and the wife and baby are doing finely. They have an apartment at 206 Grove Street, Plainfield, N. J., and every day Frank commutes to Hudson Street, New York City, to work in the Graybar office there. He likes his work very much and he is considerably involved in street lights. Well, that keeps one well lit up.

Henie Wengen is with the Central Hudson Power and Light and among other things is pretty much in love with his work. His last letter said he was going to be head gas man for a couple of days. Nothing like making use of your training. Henie's address is 91 South Hamilton Street, Poughkeepsie, N. Y. I don't know whether it has anything to do with it or not, but Vassar is there and Henie likes his location.

Pete Zugale is upholding the glory of the school in the New Jersey Bell Company. He's in the engineering office and is doing some pretty interesting work. He has some affiliation with the New York Telephone Company, but we'll let him tell about that. Pete is living at 171 Montclair Avenue, Montclair, N. J., and seems sold on New Jersey in general. By the way, Pete has just been made an uncle which also adds dignity to his position.

As for myself, I'm busy in a commercial office of the New York Telephone Company, trying to help explain to the subscribers the reasons for the rate increase. The office is located at Richmond Hill, Long Island, and I'm living at home, which is 41 Wallace Street, Freeport, Long Island.

As a matter of interest, Brune, Curtis, Lyons, Myers, Sweeney, Wengen, Zugale, and myself have formed a group which

plans to meet about once every three months. We've done this since July and it works out great. Brune and Myers have not been able to attend but we hope they have been with us in spirit.

There are a lot of fellows in our Class about whom I know something but not enough. If you get a chance, just drop me a card with your address on it and a little about your job. For instance, St. Louis, VerPlanck, and Poitras are in Schenectady. I think St. Louis is working on Neon lights and VerPlanck and Poitras are somewhere along Dougherty's course. Carroll Smith is married and is somewhere in Detroit working for the Power Company. Let's hear from these and the others. This is all for now. — HUYLER B. ELLISON, *Secretary*, 41 Wallace Street, Freeport, Long Island, N. Y.

## COURSE X

Having accumulated a column of news, we make our first appearance of the year. It seems that most of you fellows retain the same inhibitions in regard to letter writing that made themes, reports, and thesis writing such a nightmare at the Institute. However, a few blithe spirits have overcome their aforementioned inhibitions long enough to pass me a bit of news.

We must acknowledge right here that most of the news hereafter presented was obtained by word-of-mouth questioning of Gus Stachelhaus whom we had the pleasure of seeing every day for some few weeks. In that length of time quite a bit of news was wormed out of him. Gus was out here at Goodyear on a problem connected with the research division at school and we saw quite a bit of him. Gus is the same old boy, carrot-top and everything. He is at present a research assistant in the Laboratory of Chemical Engineering Research. By the way, Gus is not as heart whole and fancy free as he was in the old days.

We learned from Gus that Tu is still around the Institute and that Ho, having finished his rubber chemistry at Akron University is also back at Technology. René Simard has gone to Germany in quest of further knowledge. That being a land where a man can quench his thirst and where pretty *fräuleins* abound, René ought to be sitting pretty. Bob Proctor has left Dennison's where he started off but his whereabouts at present is unknown to us. Here is a chance for Bob to come across and enlighten us. Carl Lockhart, the old reprobate (he promised last April to write us), is with the du Pont-Lazote at Charleston, W. Va. Further than that we know nothing. Phil Taylor is in Course X-A, I understand, and somehow or other is managing to keep out of trouble, how, I don't know.

Dave Haynes is with the Tidewater Oil Company in New Jersey. It would be a good idea, Dave, if you would sit right down and write a note giving us all the details — or perhaps Mrs. Haynes could enlighten us as to the extent to which you have forsaken your bachelor ways. We understand that Latimer is at the Institute in some laboratory or other, and



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seems loth to leave Boston for Grand Junction, his home borough. Jim Donovan has gone into industry after a year as Robbie's assistant. Industry just needed a break like that. Sarkisian is doing some work in the line of hydrogenation of oils. That ought to make an interesting letter, Sarkis.

Last September Charlie Southwick became a Benedick, giving up the freedom of bachelor ways for a life of toeing the mark. Although they may be late, I'm sure congratulations are as much in order now as they were last September. We all wish you and Mrs. Southwick a lifetime of happiness, Charlie.

Last summer we received a most interesting letter from Herb Dayton. He and Mrs. Dayton are in Baytown, Texas, where H. P. is connected with the Humble Oil Company. He drove to Texas in his tumble-down hack and had a real trip from all accounts. Herb is rassling steers there in his odd moments and has attained an ability second only to Dick Hoak's for throwing it.

That reminds us that we received from Dick an unusually rambling letter, written, no doubt, when he was under the influence of some of the Buffalo beer and pretzels, mostly pretzels, I believe. Hoax, as he is so affectionately called by his dear companion Brutus Dayton, is assistant director of the Buffalo Station of the School of Chemical Engineering Practice. From his inimitable letter we gather that he still retains the fond love for Boston that was so evident in his writings upon the clouded window-panes of Bill Hall's analytical laboratory.

John Collins has left Goodyear to return to his native heath. He is now with the E. H. Clapp Rubber Company at Hanover, Mass., as their chief chemist. He is intensely interested in his work and enjoys being home again. Johnny made a lot of fine friends out here in Akron and they all miss him. — ALBERT J. GRACIA, Secretary, 2035 South 18th Street, Cuyahoga Falls, Ohio.

## COURSE XIV

We are happy to announce that Miss Fannie Stahl of Boston, Mass., was married to Howard P. Emerson on Saturday evening, November 2. After a short visit in Wilmington, the couple left for Charleston, W. Va., where Howard holds the position of assistant to the technical director of operations of the du Pont Ammonia Corporation. All letters of congratulation should be mailed to the du Pont Ammonia Corporation, Belle, W. Va.

A letter from Joe Collins informs us that he is working for the Sprague Specialties Company in Quincy, Mass., designing condensers for radio work. Joe had a bit of bad luck which made it necessary for him to spend most of last summer in the hospital. A fall, a broken kneecap, and five operations on said knee were the cause of his detention. Speaking of the Institute, Joe says: "Wasn't that a great gang we had there, Charlie? It'd be darn good if we could get them all together again, wouldn't it?"

The following from Paige: "I think the last I wrote was in March when I was in the electrical engineer's office in New Haven on a two months' tour of duty. Well, that was a nice soft job which gave me a first-class picture of electric operation and electrification as a whole. If anything, it was perhaps a little too vast in its scope, but I certainly learned a lot there, which is as it should be."

Basilio is with the General Electric Company at Pittsfield, Mass., and holds the position of metallurgist and electrochemist. His spare time is taken up teaching physics to the laboratory men.

A nice long letter has been received from Johnnie Kolligian and we are going to take the liberty of quoting him: "I don't know whether you know it or not, but I'm still at school and hope to finish up by February. At present I'm working on my thesis under Stockie. I'm getting along fairly well and the work is getting more interesting as time goes along. Bob Canning is at school also and expects to get through in February. Lou O'Malley is at school. He is tearing around with a Mexican señorita. No reflections on Lou, but she's mighty pretty — more power to Lou. Max left the A. C. Spark Plug Company and is now working in New York on chromium plating. It was a great reunion when Max, Lou, and I got together again with our derbies and crooned the old familiar tune of 'Show Me the Way to Go Home.' It sounded great, but for Max. I think the Flint, Mich., girls stole his voice. Inside of two months I'll be hitting the highways for a good trip around before I finally settle down to work. I'm going to try and look up as many of the old gang as I possibly can." We're all looking forward to seeing you, Johnnie.

Chism writes concerning his vacation: "The little wife and I made a trip east in August, going through San Francisco and then over the Sunset Limited to Alabama to see the family and let them see the better 99 per cent. Everyone was crazy about her and the whole town turned out to show us a good time. I had my car with me and we drove up the coast. We were gone from Seattle for two months. We will be in our new factory by January 1, and will build a factory in Los Angeles next year if all goes well. I have new and attractive designs of heaters out now and will have a good time getting them sold."

Jimmie Mitchell has left the Pacific Mills in Lawrence, Mass. Allan Gwathmey is with the du Pont Ammonia Corporation in Charleston, W. Va.

I was in Philadelphia during the summer working for the General Electric Company. I left Philly and the General Electric Company the latter part of October and came with the Krebs Pigment and Chemical Company of Newport, Del., about six miles out of Wilmington. Krebs is a 100 per cent subsidiary of the du Pont Company. We manufacture lithopone exclusively. I am helping devise manufacturing methods and improvements in the production of lithopone. — CHARLES E. BERRY, Secretary, 409 West 22d Street, Wilmington, Del.

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Brig Allen crashed through with a fine newsy letter from up around Cleveland. He starts, "Five months have gone by the boards since I have been in this rainy, wet, spread out, uninteresting town of Cleveland and nothing startling has happened yet." He never was more right about anything, for this northern Ohio climate is just like that and from all reports Cleveland gets more of it than Akron. Now that I have the opportunity I am going to present the entire letter for it contains so much news in which all of you will be interested. The personal notes to me will be left out, but the rest of the letter should satisfy your interest in Brig's work and activities in Cleveland. Please note that his letter opens with the same thought that many of you have had yourselves, but there is this difference, you have not crashed through yet.

"I meant to write you at least four or five months ago but you know how it is. When I get home at night my ambition and any resolutions I may have made go up the river. . . . I have been taking sort of a training course with the Reliance Electric and Engineering Company, makers of fine A.C. and D.C. motors of from one to 300 h.p. I believe that your plant in Akron is fairly rotten with them. If you ever find one that doesn't run you can almost place a sure bet that that was one of those that I assembled while I was on the assembly floor. I spent a month or more in each department, design of A.C. and D.C., test, experimental, assembly, and in the sales service and sales order departments. At the present time I am assisting the production manager of the new A.C. line we are bringing out. This last month with him has been darned interesting work and I will be sorry to have to leave him next week. I am shooting for sales eventually and according to Dame Rumor will be shipped out of here some time after the first of April. It is a great chance for speculation as to where they will place us, anywhere from California to Boston or from Chicago to Birmingham. I am trying for the New York or Boston offices, of course, but it seems that others are too.

"I bumped into Delano and Hal Dick a couple of weeks back. I suppose that they have told you about it by this time, though. It was quite a coincidence to happen to have the seats right next to theirs. I always have said that the place to meet your friends is either in the last row of the balcony or in the next to last row. I never miss in that particular theatre. Ted Ewald is in town and has been for the last four months. He is working for the Commonwealth Securities Corporation, an investment trust. He is doing more or less engineering work for them and finds the work very interesting and is doing a good job at it, I guess. We get together three or four times a week to play squash and other things. I have had occasion to do lots of other things. I have gotten so I can take him in squash fairly regularly now. Ted and I were walk-

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ing down Euclid Avenue one night last December and glanced into a bow and arrow shooting establishment where we saw a couple of would-be Robin Hoods working out. One was none other than Jerry Palmer. I am still going to call him up and have dinner with him but I never seem to get around to it. . . .

"Don Perry arrived in town on New Year's Eve. . . . I had dinner with him the other night. He is working for York Heating and Ventilating here in town and has just come from the Boston territory. . . . He tells me that Marlow and Powley are back trying to graduate in June and that they are living on Peterborough Street and keeping a monkey in their apartment. They behave Monday, Tuesday, Wednesday, Thursday, and sometimes Sunday nights. Charlie Denny is working for Westinghouse in Pittsburgh and came up to visit us one week-end last month. His address is 500 Todd Street, Wilkinsburg, Penna. I had a letter from him yesterday and he tells me he may come back again for more. I also had a note from Brockleman back a ways. He is holding forth in the grocery chain store business. The old buzzard might crash through again soon.

"I have been playing a lot of basketball in the Industrial League and breaking into the papers occasionally. I have sixty per cent of my team's points to date for the season. I have been hearing from Fish Hill quite regularly and he tells me to stay out of New Britain, Conn. . . . I hear that Jack Hallihan is in Tulsa, Okla., and last heard from, he wrote a letter to Charlie Denny beside a jug of wine. It took Charlie two days to decipher it but he gathers that John is doing well in one way or another. . . ." It surely is good to hear from Brig and I hope that more of you will crash through in the same way.

Elmer Skonberg came through with a good looking full page for Course XV, but, alas, he should have supplied the cuts for the pictures as well as the notes. I only wish that you could see the original copy and recognize Elmer's ability, but you will all have to be satisfied with what The Review prints of it.

Hal Fairchild XVI crashed through with greetings via a Christmas card from San Antonio, Texas. Come on, Hal, write us a real letter and tell us all about the work at the flying field for I'm sure it must be as interesting as most of us can boast. Ralph Atkinson writes, via Christmas card, that he sends warm greetings to me and mine, but doggone, he's pretty tight when it comes to giving us a bit of that Pasadena, Calif., climate. I'll bet he saw the Rose Bowl game New Year's Day but figures it just a small event in his life and not worth writing about. Come on, Ralph, and tell us about university life.

Harry Cabot Weare I landed a boat load at Bloomfield, N. J., and judging from the Christmas card he is making the most of his opportunities. The sentiment on the card stated, "It dinna cost one penny more to add the New Year greeting," so Harry Cabot turned over the

card and on the other side added still more. — Rudy Swan VI and his wife are enjoying life in Salem, Mass. At least there were no complaints on the reverse side of their Christmas greeting. — Ed Farmer VI and Joaquin Llanos II sent their greetings via Christmas cards and I hope that they will write more now that they know how. — Red Donnelly II writes that he is out in the very flat corn country, Illinois, and judging from his comments, he is another who likes New England better the further he gets away from it. He is with the Fuller Lehigh Company of Fullerton, Penna., and adds, "we specialize in water-cooled furnace walls, pulverized coal burners, and so on." Just now he is looking after the equipment of the Super Power Company of Illinois and doing field research work in connection with pulverized fuel. I guess Pekin, Ill., will be his home until spring.

Tacks Crosby and Andy Andrews of Course X express a sentiment that many members of the Class might feel. If you do, then please accept the responsibility just as they did and supply a little news yourself. We will all be glad to hear from you, I am sure.

Paul S. Kingsley III adds another name to the list of married men of the Class and we all wish to extend our best wishes for a lifetime of happiness. The great event took place on January 6. — EARL W. GLEN, *General Secretary*, 339 Hillwood Drive, Akron, Ohio.

## COURSE I

At last the boys are beginning to feel the urge to write, and the resulting flow of news is gratifying. Dan O'Connell reports that he is well satisfied with his work with the United Engineers and Constructors in Philadelphia. His official title is cost engineer. He says he sees George Logan once in a while and that George is working for the Koppers Construction Company in Philadelphia.

DeFabritis came through with six pages of news items, most of them highly colored with wisecracks. Speaking of Kittredge and himself, he says, "As far as I have been able to find out, we don't rate as instructors either with the Institute or the students, but then no one ever accused last year's group of instructors of divulging any of the secrets of the laboratory. We are firmly convinced that we are learning more than the undergraduates and at the same time having more fun than any of our '29 classmates can boast of." The credit of the first Course I marriage should go to Kittredge, who was married on June 12 to Miss Jane Coley. It was previously announced that Walters was the first to take unto himself a bride, but Cliff beat him by fifteen days. Izzy Winer is with the Pennsylvania State Highway Commission building concrete roads. He is living in Pittsburgh. Def says, "Izzy's famous rubber pavement seems to have taken on all the silence he claimed for it." Fine was with Winer for a while, but later went to Mobile, Ala. He is working for the government. The

exact whereabouts of Bill Cathcard is still a mystery. The last rumor was that he has working for Stone and Webster in Richmond, Va. Jacobs and Chick Dolben are back at school as undergraduates. Chick is helping coach the crews. Bill Whiting is working as an assessor for a fire insurance company. Evidently Bill had to give up the struggle for an S.B. Tao is studying sanitary engineering at Harvard.

Alexieff is not working for the Institute, as was erroneously stated last month. He was married in New York on an unknown date to Miss Imogene Hyde. A Christmas card revealed the fact that he is in New York now, but his exact address is not known.

I was fortunate enough to get home for a while at Christmas time. Of course I had to visit the scene of my former struggles, the Institute. The first person I met there was none other than the boy artist, Pat Patino. Needless to say he was in the graduate drafting room busily beautifying water power problems. While passing through the Engine Laboratory, I stopped to gaze in awe at the names of DeFabritis and Kittredge written upon one of the office doors. Over at the track house Oscar told me that Jack Hallahan had gone to Texas. Let's hear from you, Jack. And speaking of Texas, what has become of Smith, Ware, and Wisbrun? — GORDON R. WILLIAMS, *Secretary*, 405 West Oak Street, Louisville, Ky.

## COURSE VIII

A letter from Tubby Turner is full of news. It follows:

"Earl Glen's frantic SOS for news has reached me over here. Perhaps I can buzz out a few words from this side of the planet so that our Course VIII Secretary won't become completely paralyzed with inactivity.

"Back in April the doctors on the Institute scholarship committee decided that a change of air would do me good, so here I am now breathing the *auspuffsgas* of German autos on *Unter the Linden* instead of the blue haze of Beacon Street. Speaking of autos, Fords are not at all common here. They burn too much gas.

"To begin chronologically, I said goodbye to the land of my fathers and opportunity toward the end of September, and eleven days later I set foot in Germany, the first step towards the fulfillment of a two-year-old wish to be able to live for an extended period in these most agreeable surroundings. I went immediately south to the little town of Giessen. There were to be lectures there for foreigners in the German language. They turned out to be pretty deep, dealing with Schopenhauer, Kant, Fichte, and so on which would have been bad enough in English. Moreover every lecture had evidently been thoroughly dessicated before being delivered. But one can't help absorbing a little under a six hour daily bombardment of words, so that the experience was not at all time lost. Then too, Heidelberg, my old stamping ground, is not far distant, and so I had the



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opportunity to make a couple of visits down there. The new university buildings, for which our Ambassador Schurman has given a great sum, are rising where some of the ancient academic walls have been torn down. Heidelberg boasts now a new lock and dam system, making it possible to go by the same boat from Chicago into the Black Sea *ohne umsteigen*.

"The middle of October found me in Berlin confronted with the job of getting matriculated at the University. Being an exchange student, some of the dirty work had been done for me, so that I was able to complete my enrollment in the record time of only four days. I breathed a sigh of relief and began then to look for a permanent room. Attempts in this direction were long and sad, but at last I found something very satisfactory, a peach of a room with a little porch on which to place my telescope. And quite unwittingly I've taken unto myself a very important address, for just tonight I discovered that downstairs lives the editor of the *Zeitschrift für Physik*, Dr. K. Scheel.

"The room hunt had one great disillusioning result. Somewhere in my travels I picked up the idea that Germany was a place to live in cheaply — for next to nothing in fact. In my pipe dreams, or more cigar dreams, on Beacon Street I mentally divided my scholarship money by this infinitesimal living cost and drew the delightful conclusion that I would be able to stay here quite indefinitely. *Aber draussen wird man klug*. The fact is that it costs an American student almost as much for life's necessities here as at home. A room in a house which boasts a bathtub and occasional hot water thereto runs from \$15 to \$20 a month. Incidentally, bathtubs are more or less a luxury. In a little town the lack of one is not seriously inconvenient because there is always a good city bath near at hand. On the other hand, in a large city one generally finds it necessary to use the street car and that is not as good.

"Food, it seems to me, is a bit cheaper here — a thirty-five cent meal comparing favorably with a fifty cent Esplanade Blue Plate Special. Then, too, there are student lunchrooms where a meal can be had for two bits or less. It turns out finally that for life's bare necessities of room, food, and laundry, one must count on \$50 a month. I had occasion last week to bring up this expense question in a group of Americans here and we were all agreed that this figure is about right. Some things, it is true, are decidedly cheaper. Students can generally get half price commuting tickets if they live in the suburbs as I do, and they receive a fifty per cent reduction on most theatre tickets. Train fare is roughly one-third of that at home because one travels third class. Beer costs about fifteen cents a quart, and last but not least, and despite all reports defiling German tobacco, you can get a six cent cigar that compares very favorably with a fifteen center at home, *Gott sei dank*.

"I might add that a typical German student lives on about one-half of what we do, that is on about 100 marks a

month. In the first place he takes a room at \$10. Somehow we Americans can never seem to find those rooms. Then he eats more cheaply than we, meat, for instance, being seldom seen on his menu. In short, it appears to me that all his life he has had to be more careful and frugal than the typical American student, which is a distinct handicap in the latter's efforts to live as cheaply as the German. Germany since the War is a land of poverty so appalling that we in the United States can scarcely conceive it. In fact, it actually hurts at times to see in what circumstances some people here must live. And despite it all there is a pride and an industry among these people that provokes a most profound respect for them. There are a lot of examples being set over here which we could to advantage note and follow.

"The University, of course, occupies most of my time, twenty hours a week of lectures, and most of the rest of the time is spent in the laboratory where I am assistant to Dr. M. Czerny. My lucky star certainly blazed forth the day I landed that job for it has been a lot of fun. The work is in the infrared, around 150  $\mu$ . A word of advice — if you are coming over here and have but a year at your disposal, don't count on doing much original work, such as this work. Everything is *schon alles besetzt*, three times over in fact, and the students who have been here some time find it difficult enough to obtain a place for thesis work. Confine yourself rather to lectures and pencil and paper work; and try to get a position with some professor. My intentions remain astronomical and as I write I am basking under the shining brass wheels and dials of a five-inch reflecting telescope with objective prism. It is being set in order and will soon be ready for its place on my porch. I hope night air is healthy.

"... I'll just wind up by saying that if you want to see locomotive engineers wearing wing collars, if you want to see the good old-fashioned original goose-step, if you want to see kilometer upon kilometer of wurst, and above all, if you need an inspirational kick as a cure for a year-long spring fever, just come to Germany." — ARTHUR G. HALL, Secretary, 33 St. Paul Street, Montpelier, Vt.

#### COURSE X

A letter from Andy Andrews and Tacks Crosby from Hammond, Ind., gives a lot of news: "Ralph and I have been about ready to cancel our subscription to The Review after noting the sad lack of Course X items, but we finally decided a better plan would be to send in our own wisecracks. We haven't seen much of the other members of our Class, but we have been having a grand time ourselves, here on the far south fringe of the machine gun district. However, my roommate, Ken Martin, passed through here last September on his way to a soft job with the Illinois Zinc Company at La Salle, Ill. (La Salle is just a couple of miles from Ottawa, the source of the famous stand-

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ard sand we used to use in the Testing Materials Laboratory.) Also Tufts, who is now struggling with a X-A thesis, went through Chicago during the recent holidays on a trip to Colorado.

"Crosby made the trek to Chicago last June in his Chevrolet, and received a rousing introduction to our fair city when he parked in the Loop on a Sunday afternoon and returned to find two handles knocked off the car. His grief was supreme when he had to wrap his handkerchief around a brick and toss it through a window in order to get into the machine. The next morning, July 1, we followed all Horatio Alger's rules for success and reached Shell's East Chicago refinery an hour before even the most optimistic employer might expect us. Proudly admitting that we were chemical engineers, we were greeted with joy and were promptly told to take the rest of the day off to look for a boarding house.

"Eventually we became settled in the park residential district of Hammond, and started work on a comprehensive study of the oil refining industry, which will carry us through a training of nearly two years. Crosby has spent the first six months on the Dubbs cracking stills and doing special test work, while I made the rounds of the topping plants, and now am safely housed for the winter in the laboratory. Eventually we will both cover the same outline of work. From all reports we have received this period of training is about the longest that any of the fellows in the Class are to get, but so far we like our situation, and as long as we can continue to scrape through from pay day to pay day, everything should be perfect. Right now we are convinced the oil business is the best one in the world, for industries all over the Calumet region are experiencing temporary shutdowns. In fact, even the City of Chicago is finding it possible to get along without half of its fire department and police department, though we rather thought they didn't have half enough policemen in the first place. But it's rather comforting to feel that your job will be there tomorrow morning if the alarm clock wakes you up. Of course, a night shift now and then is tough, as Crosby says one time he woke up just in time to keep from banging his head into a pump and being knocked cold. . . ." — PAUL V. KEYSER, Secretary, 1632 Hobart Street, Washington, D. C.

#### COURSE XV

How about it, Bill, Brig, Dick, Les, Ray, Fritz, Brock, Johnny, Cubby, King, George, Henry, Fred, Charlie, Steve, Erick, Ted, Dan, Tot, Hallett, Fish, Matt, dear old Alexis, Phil, Larry, Mac, Jim, Art, Bob, Beans, Chuck, Jack, Sonny, Frank, Wes, Maverick, Bonzo, Snack, Sam, Doc, Blizzard, Spear, Ray, Dave, Tony, Lee, and so on? Meaning how about keeping us posted as to your whereabouts and doings since last time? We've all been doing things since last June and however big or trivial your doings may seem to you, they'd be of interest or amusement to the rest of us. You

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like to read about Thomas, Richard, and Harry, well, they would like to hear from you and your letters will have greatest "utility" if sent to your Secre-

tary, who will condense, purify, and edit them for The Review. If every one will make his contribution regularly there will be at least a page or two of Course

XV gossip for you to read each month. —ELMER A. SKONBERG, *Secretary*, Electric Motor Repair Company, 11-31 Park Street, Springfield, Mass.

### Technology Club of Hawaii

THE regular annual meeting of the Club was held at the University Club on December 14 and was called to order by the President, Sidney T. Carr '06. On the motion of William C. Furer '06, the minutes of the last meeting were approved unread. The President then stated that nominations were in order for officers for the coming year and called for a report from the Nominating Committee. The report was as follows: President, Colonel Frederick W. Phisterer, formerly Head of the Department of Military Science and Tactics at the Institute; Vice-President, Charles W. Dickey '94; Secretary-Treasurer, Dudley W. Smith '28; Directors, Sidney T. Carr '06, and Harry P. Field '21. On the motion of Professor Carl B. Andrews the nominations were closed, the ballot taken and these men were unanimously elected to serve for the coming year.

The business part of the meeting was thus concluded. Those present were Professor Carl B. Andrews, William C. Furer, Dudley W. Smith, Sidney T. Carr, Lyman H. Bigelow '01, and Harry P. Field.

After the luncheon and business of the day, the Club was entertained most interestingly by our guest, George W. Fuller '90, who told something of the human side of the World Engineering Congress in Tokio which he had attended. He also told some of his experiences in traveling through Manchuria and China. Although the talk was interesting it was depressing to learn of the hopeless conditions prevailing in China.

The Treasurer reports a balance on hand of \$2.61 which amount is safely deposited in the Bank of Hawaii. —HARRY P. FIELD '21, *Secretary*, Box 2750, Honolulu, T. H.

### Detroit Technology Association

The first meeting of the Club for 1930 was held on January 14 at the University Club. New officers for the ensuing year were elected as follows: President, George F. Gokey '21; Vice-President, Edward A. Ash '22; Treasurer, John E. Longyear '26; and Secretary, John H. Little '23.

It was announced that Professor Charles F. Taylor, Head of the Department of Aeronautical Engineering, would be the guest and speaker at the February meeting. Minot Dennett '11 has presented the Club with two sets of the Technology Wedgwood dinner plates. It was suggested that notices of the meetings be placed in the newspapers so that out-of-town Technology men will be informed when and where our meetings take place. A cordial invitation is extended to all visiting Technology men. Our meetings are usually scheduled for the first Tuesday evening in each month at the University

Club at East Jefferson Avenue and Russell Street. —JOHN H. LITTLE '23, *Secretary*, 28 West Dakota Street, Detroit, Mich.

### Montana Society of the M. I. T.

Nine members of the Club met at an informal dinner in the main dining room of the New Finlen Hotel on January 13. Letters were read from the Institute, among them being a letter from the Athletic Association acknowledging a donation. Albert E. Wiggin '07, Montana metallurgical manager of the Anaconda Copper Mining Company, who was unanimously elected chairman of the Montana Society, sent a letter regretting that he could not attend the dinner.

This last meeting was the second held since the death of Charles W. Goodale '75 and the following resolutions were read and accepted: "Whereas, it has seemed necessary for our friend and comrade, Charles Warren Goodale, to leave us, we, the members of the Montana Society of the M. I. T., wish to express our esteem for our departed founder and long-time President.

"Charles Warren Goodale, whose heart was ever with any movement to benefit M. I. T., was ever the fast friend of the struggling young engineer, many of whom he helped along the way with his quiet encouragement, sympathy, and understanding. Many were the good works which he performed quietly and unostentatiously through his great zeal and civic spirit. He was a true friend, ever thinking of the other fellow rather than of himself.

"Therefore, be it resolved: That the Montana Society of the M. I. T. express its deep sense of loss at the departure of our friend and extend its heartfelt sympathy to his brother. That a copy of this resolution be sent to his brother, to The Technology Review, and spread upon the records of this Society." These resolutions were signed by George W. Craven '98, Carl J. Trauerman '07, and Frederick C. Jaccard '07.

Also present at the meeting were: Walter R. C. Russert '18, Louis A. Stadler '01, Frederick C. Gilbert '98, William L. Creeden '90, William A. Kemper '04, and Charles H. Clapp '05. —CARL J. TRAUEMAN '07, *Secretary*, 25 East Broadway, Butte, Mont.

### New Haven County Technology Club

On January 24 the Club held a meeting at the home of Charles E. Smith '00 at 282 Prospect Street, New Haven. The speaker of the evening was Lt. R. D. Thomas, general manager of the Viking Flying Boat Company. He is well-known in and out of the aviation industry. In brief, he has held an assistant professorship at the Institute, served in France,

has actually flown more hours than most aviators, never having an accident, was the first winner of the now famous Schiff Trophy, and is an excellent speaker on aviation. He is, moreover, a member of the Club. —WALTER R. WEEKS '24, *Secretary*, 178 Willard Street, New Haven, Conn.

### Technology Association of Japan

During the World Engineering Congress held in Japan, a banquet was given to Institute Alumni by the Club. The speakers were: Baron Takuma Dan '78, President of the Club; Professor Emeritus Robert H. Richards '68; Professor Dugald C. Jackson; John R. Freeman '76; and Calvin W. Rice '90. Takanaga Mitsui '18 also addressed the Club and his remarks follow:

"I deem it a great honor and a great pleasure to see you here, who are connected with our dear Alma Mater. I say it is a great honor, because it is not often that so many noted members of the Alumni pay a visit to this part of the world, and that we are able to have the occasion of inviting them together like this. And it is a great pleasure, because, never before have we been able to hold such a big Alumni dinner of the Institute in Tokio, some 7000 miles away from the school. And we, the far eastern members of the Alumni, do hope that this kind of happy occasion may occur time and again in future, for, thanks to the wonderful development of science in the recent years, distance has become shorter and shorter, hence the world is getting smaller and closer. I believe that you still remember not long ago the German Zeppelin crossed the Pacific in less than five days, which is about the same time required to go from Los Angeles to New York. This record, I am sure, will be beaten still further, and I should not be surprised, if some of you in the future may be invited here to spend week-ends with us.

"Well, all of you who are present here this evening are representing different branches of science in the World Engineering Congress. The object of the Congress is educational, to enable those who are experts in all branches of engineering to take counsel together, to compare their experiences, and to help each other with their knowledge. This, I think, is one of the greatest aspects of science, for science, like religion or art, has no national or racial differences. We all are striving to find the truth of the universe, thereby to help the further progress of the happiness of mankind. And I am very proud to say that my invitation was accepted in the same spirit in which it was given.

"This evening I am very proud and happy, proud as a member of our Alma Mater, happy to be among and with you,



and to be present at a table which is honored by the presence of noted members of the Institute. Professor Emeritus Richards and Professor Locke here, have for a long time put their great abilities and wide experiences at the devoted service of a long list of students, and I am glad to express my sincere gratitude to the professors, not only for their kind instruction, but also for the favors extended to our engineers who have visited the United States.

"Also, it is my great honor to present my tribute of praise and admiration for the magnificent part that our Institute has played for so many years for the training of youths and for the development of industries. I feel gratified in realizing to what a great extent those of us, who are engaged in the industrial life of this country and the Orient have received the valuable help and contributions from Technology. The list of the far eastern members of the Alumni is too inadequate to express the great amount of work that has been done in this part of the world by Technology men and under their influence.

"In conclusion, I wish to thank you again most cordially and most sincerely for the extremely kind, friendly, and hearty manner in which you have been good enough to receive my invitations this evening. Now I want to ask you to toast the future development and prosperity of our dear old Alma Mater, as well as of science." — YOSHIO KUBOTA '23, *Secretary*, Kansai Honbu Shibu, Navy Department, Tokio, Japan.

### *The Technology Club of Central Ohio*

On December 5 we held our semi-annual dinner at the Administration Building at Port Columbus — our new airport which is the eastern air terminus of the Transcontinental Air Transport. There were nineteen members and guests present, which is a record crowd for our small Club. After dinner we inspected the Port and then had thrilling movies of the Army Air Service, lent us for the occasion by the local military. We are now looking forward to another successful dinner this spring when we hope to be able to announce the completion of our scholarship fund.

On Wednesday, January 8, we had our first regular monthly informal luncheon at the Pavilion Tea Room on the fifth floor of Lazarus Store and there were nine present. There is a gratifying increase in interest in our club activities by a lot of Technology men who had almost forgotten their Alma Mater. — EDWIN M. WOODWARD '17, *Secretary*, 1272 Hope Avenue, Columbus, Ohio.

### *M. I. T. Association of Buffalo*

The Club held its annual election of officers on December 10 at the Hotel Buffalo. The retiring President announced the election of the following officers for the year: President, James B. Brinkerhoff '23, and Secretary, Daniel P. Moynihan '22. These new election results were received with surprising calm. Not so, however, the good news that our old colleague here in Buffalo, Bill Ryan '18, is the proud possessor of a full professorship at the Institute and is Head of the Chemical Engineering Department and the School of Practice. The first duty incurred by this Scribe was the pleasant one of sending our honored friend the unanimous best wishes of the forty local celebrities. — DANIEL P. MOYNIHAN '22, *Secretary*, 311 Jackson Building, Buffalo, N. Y.

### *Washington Society of the M. I. T.*

The annual meeting of the Society was held at the University Club, on Friday, December 27. Officers for 1930 were elected as follows: Kenneth P. Armstrong '10, President; Francis B. Silsbee '10, Vice-President; Joseph Y. Houghton '26, Secretary; Charles H. Godbold '98, Treasurer. Mr. Frank W. Noxon, Secretary of the Railway Business Association, made a brief address, answering questions propounded by the members, which ranged all the way from the unemployment situation to the future of the engineer. The replies to the questionnaire, which was sent out to the members of the Society, having indicated a preference for the Tech Show over the Musical Clubs, considerable discussion followed as to the possibility of financing a trip of the Tech Show to Washington. Messrs. Chindblom and Nordlinger, undergraduates who are connected with the Show, also spoke on the matter, which was finally referred back to the committee for further investigation. Seventeen members of the Society were present, and sixteen undergraduates whose homes are in Washington were guests. Alfred E. Hanson '14, the retiring President, presided. Members present were: Kenneth P. Armstrong '10, Joseph W. Clary '96, W. Malcolm Corse '99, Walter B. Dean '28, Walter C. Dean '00, Joseph C. Dort '09, Proctor L. Dougherty '97, John D. Fitch '24, Charles H. Godbold '98, Alfred E. Hanson '14, Amasa M. Holcombe '04, Henry C. Morris '00, Allen B. McDaniel '01, Allen Pope '07, Frederick F. Schaller '96, Walter I. Swanton '93, and Alexander W. Yereance '11. The guests were: Samuel P. Baum '33, Samuel Bensinger '31, James G. Bowen '30, Richard N. Chindblom '31, Austin W. Day '30, Albert G. Dean '31, Edmund H. Lloyd '33, Ormond M. Lisak '30, Paul M. Midkiff '32, Samuel G.

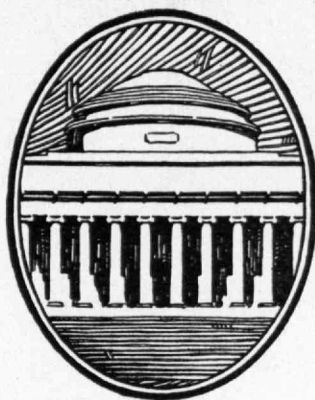
Nordlinger '31, Norman Pressler '33, E. Ralph Rowzee '30, Robert Sanders '31, David S. Stanley, Jr. '30, W. F. Swanton, and John A. Plugge '29.

A regular monthly meeting of the Society was held at the University Club, Friday, January 17. Following the usual luncheon the meeting was called to order by Kenneth P. Armstrong, President. Proctor L. Dougherty, Vice-President of the All-Technology Reunion, spoke at considerable length regarding the plans for the Reunion, and expressed the hope that many of the members of the Washington Society would be able to be in Cambridge on June 6 and 7.

The question of the underwriting of a trip to Washington for the Tech Show or the Musical Clubs was raised, and the discussion having developed that the Show or Clubs would have to be brought the entire distance from Boston, it was moved, seconded, and passed that this underwriting be abandoned for the present year.

It was also moved, seconded, and passed that the Washington Society have an annual banquet, the details to be handled by a committee to be appointed by the President. The President then introduced the speaker of the occasion, Mr. Willis Ray Gregg, chief of the aeronautical division of the United States Weather Bureau, whose subject was "Meteorological Service for Civil Airways in the United States." Mr. Gregg gave a very interesting account of the work being done by the Department of Commerce and the Weather Bureau to aid the development of Commercial Aviation and explained the methods used by the Weather Bureau to maintain a short range forecast service, for a period of, say, three hours for all points on a particular airway, and the use of the teletype along airways so that reports from stations all along an airway may be transmitted to a central station and broadcast by radio within fifteen minutes of the time of the taking of observations, to thus enable a pilot in flight to frame his course in accordance with weather conditions. Mr. Gregg also expressed a hearty approval of the new meteorological course which has been installed under Dr. Willett at the Technology, with the aid of the Guggenheim Fund, and stated that many very good jobs in the Weather Bureau await the graduates of this course.

Among those present at the meeting were Kenneth P. Armstrong presiding; Walter I. Swanton; Proctor L. Dougherty; Walter C. Dean; Allen Pope; T. V. E. Stevens; David J. Guy '12; A. E. Lawson; Harold Van V. Fay '14; Alfred E. Hanson; Wilmot A. Danielson '26; and Joseph Y. Houghton. — JOSEPH Y. HOUGHTON '26, *Secretary*, 402 Shepherd Street, Chevy Chase, Md.



# INFORMATION

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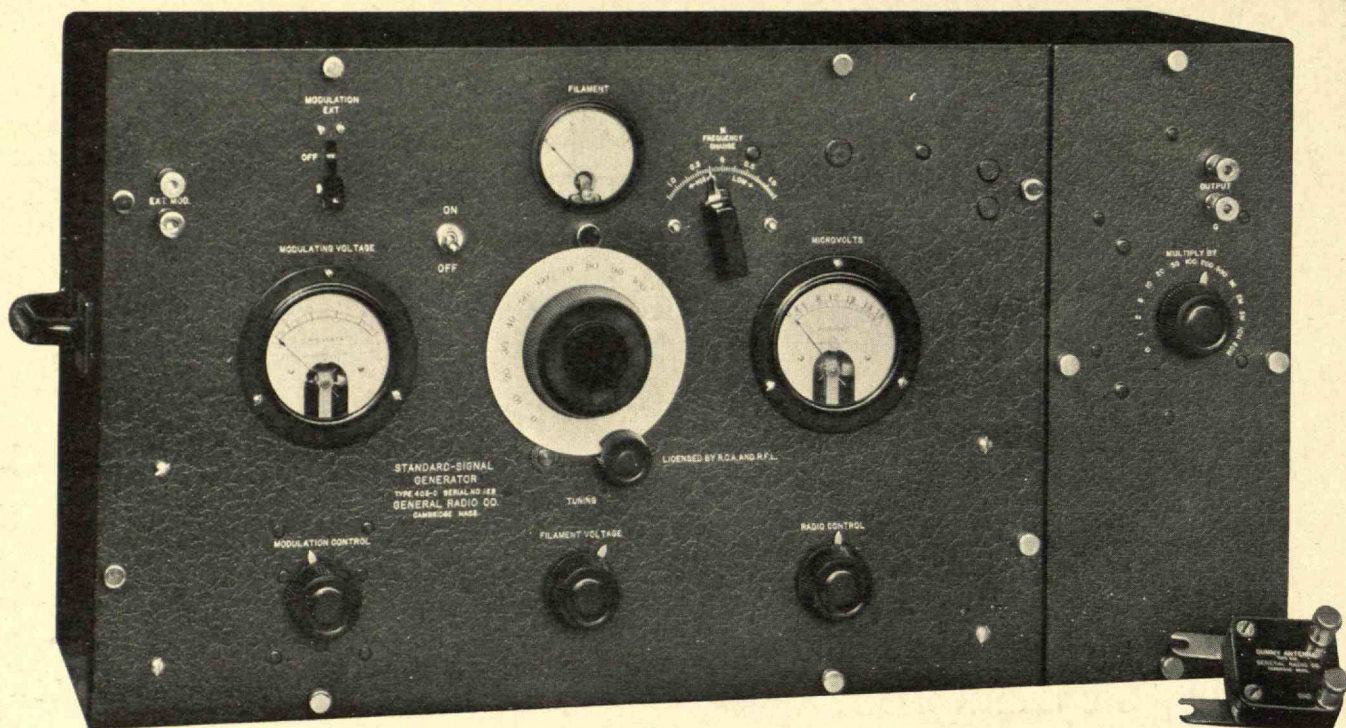
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